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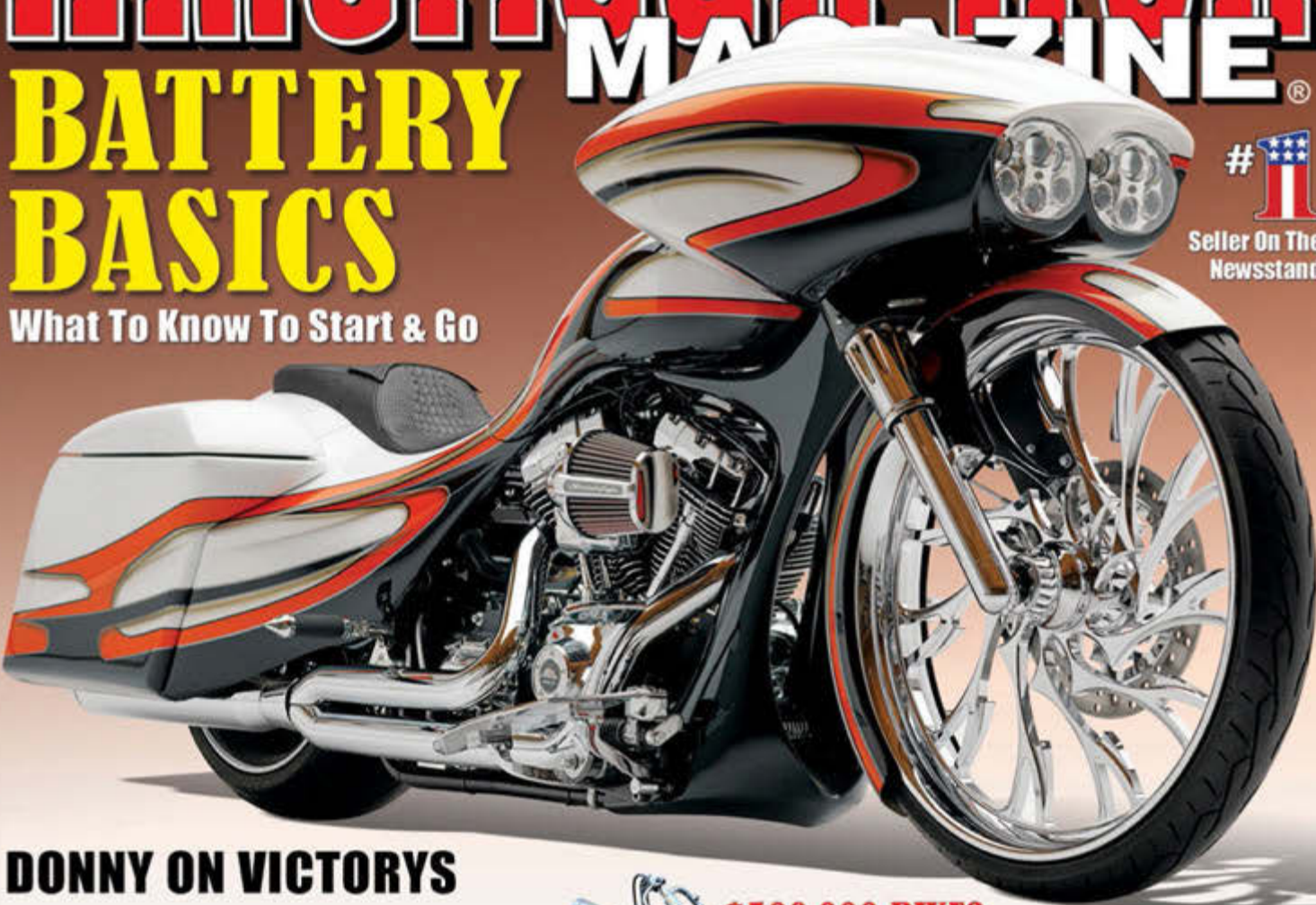
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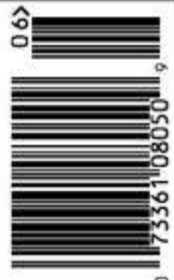


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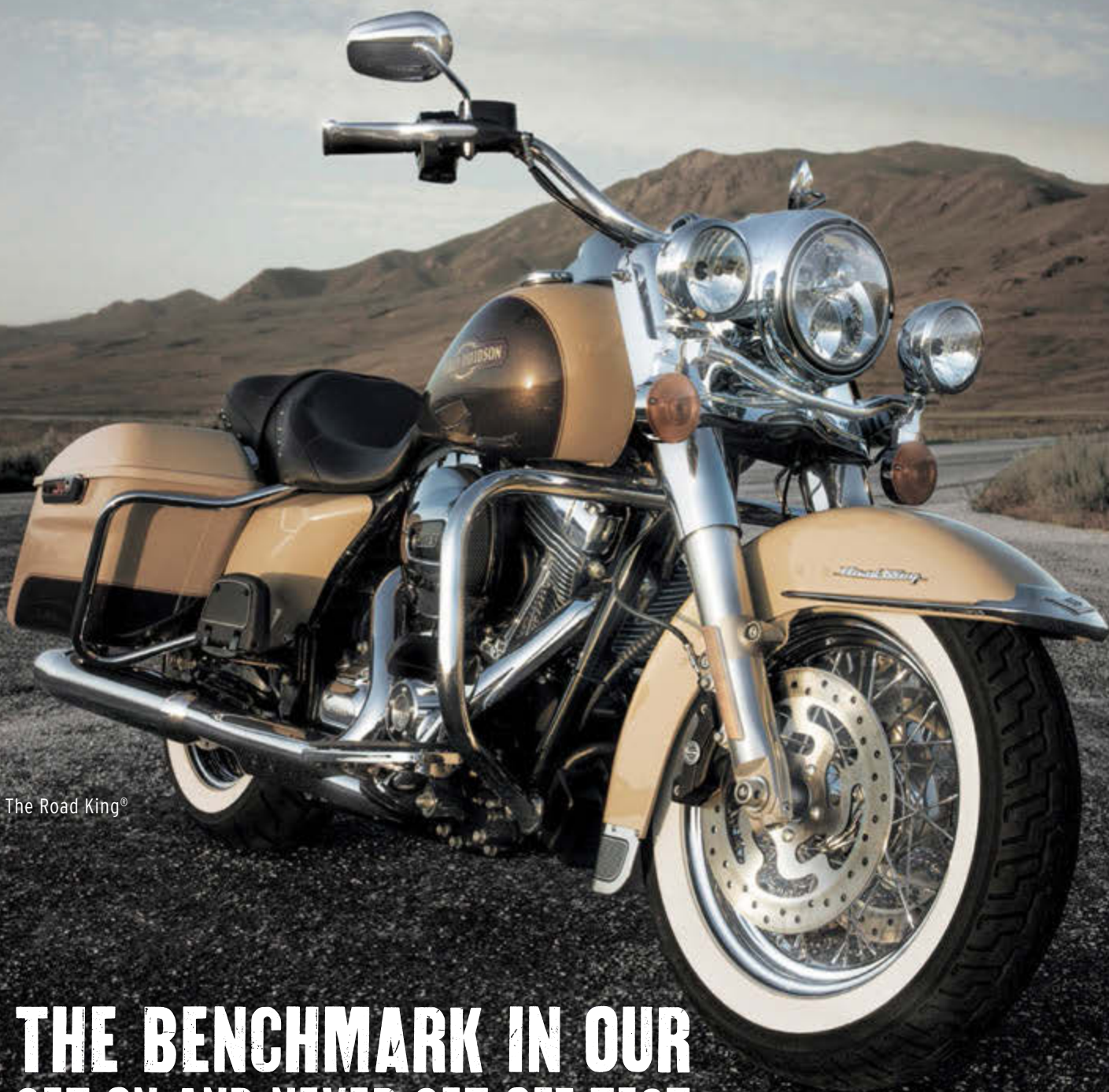
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AMERICAN IRON MAGAZINE is published by
TAM Communications Inc., 1010 Summer Street,
Stamford, CT 06905, 203/425-8777, FAX 203/425-8775,
AIMag.com. PRINTED IN THE U.S.A.

Subscription Information and Customer Service
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Pray That Harleys Never Become Ferraris

MY FRIEND ROGER AND I WERE RECENTLY talking about the prices of old bikes and cars. He told me about a friend who bought a collectible Ferrari Daytona at auction two years ago for a

little over \$1 million. I told him I can't comprehend these prices or values for a car. Roger replied that his friend sold it last year for \$2 million, and now it is being offered for almost \$3 million.

I have no idea if the Ferrari will sell anywhere near that price or not, and frankly, I don't care. What concerns me, though, is the possibility that motorcycles might be next in the Dutch Tulip Mania that Ferraris are experiencing. I know we'll never again be able to buy a running Knucklehead for \$10,000 as I did years ago. But I sure hope old Harleys and Indians don't get priced so high that they turn into "investment-grade art" to spend the remainder of their years displayed in a game room or man-cave like so many other trophies now do.

OK, there are some bikes that are so very old, rare, or impractical that it makes little sense to run them. On the other hand, we are seeing more antique and valuable machines today being ridden at events like the coast-to-coast Motorcycle Cannonball, the Race of Gentleman, Antique Motorcycle Club of America rides, and our magazine's Motorcycle Kickstart Classic.

It's none of my business how people spend their money or what they do with their rare classic motorcycles. And I don't need anyone telling me not to ride my one-year-only 1936 Harley VLH nearly 4,000 miles across the US as I did during last year's Motorcycle Cannonball. Perhaps the VLH is a museum piece, and perhaps it isn't. But it is a motorcycle and it is mine, and I wanted to ride it on the most recent Cannonball, which is just what I did.

While I doubt many motorcycles will ever hit those Ferrari prices in our lifetime, we have seen sales prices popping on Knuckleheads, Panheads, and other classics. We are now at the point where non-riders (the people, not the machines) are buying the best of these old bikes as if

they were collectible art, and pulling them off the road so they won't lose value. This makes it harder for enthusiasts like us to find or afford these machines. So, what is an enthusiast on a real-world budget to do?

The current issue of our all-tech *American Iron Garage* newsstand special magazine (sold at www.greaserag.com if you can't find it locally) might have the answer. *AIG* features a classic Harley project that just about anyone can afford. My friend Steve Hatcher bought and built a 1970s Harley Ironhead Sportster tracker for under \$2,000. That price included the bike and all the added parts. While it might not be everyone's ideal classic bike, it sure is a great place to start and to have fun.

If you're one of the lucky few in a position to buy one of the desirable classic motorcycles, enjoy it. If you're not, don't assume you have been priced out of the market. Perhaps you'll never own an original 1948 Panhead springer. But almost everyone can buy and enjoy a great old Ironhead or Shovelhead.

Motorcycle Kickstart Classic

FOR VARIOUS REASONS WE COULD NOT have the Kickstart Classic ride in Texas as hoped. But we will have one at and around Wheels Through Time Museum in Maggie Valley, NC, the last weekend in May. For more info

please visit www.aimag.com or call Rosemary at 203/425-8777 x 114.

Ride safe, ride smart, have fun.



BUZZ KANTER
Publisher/Editor-In-Chief, *American Iron Magazine*



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TAKING AIM

Increasing Engine Size III

AS IT IS WITH ALL things mechanical, getting a bit more in one area means losing a little somewhere else. The trick is to know the benefits and drawbacks of each mod, know what you want the engine or bike to do, and build it to do that job well.

When you move the crankpin closer to the flywheels' outer edges (stroke it), you increase the amount of leverage the pistons have to turn the flywheels. This is why a stroked engine has more torque at lower rpm than a stock one in addition to the power the additional cubic inches produce. In a heavy bike, this increase in lower end torque will give you plenty of grunt at low rpm, as well as great pulling power for passing on the highway or climbing hills. In a light bike, like a Softail, you can go to much taller gearing for highway cruising and still have plenty of power for off-the-line performance.

One drawback of a longer stroke is that the engine takes longer to rev up, which affects how fast the engine/bike will accelerate. Thankfully, the performance loss resulting from a mild stroke increase will be more than compensated for by the increase in power, so acceleration should be better, not worse.

Another possible drawback of a longer stroke is shorter piston life due to increased piston speeds and side loads. Piston speed is how fast a piston travels in its cylinder. When an engine's stroke is increased, the distance the piston must travel in its cylinder also increases, so it must move faster since the *time* the piston has to travel this greater distance stays the same. After all, 3000 rpm means 3,000 revolutions per minute, no



**The trick is to
know the
benefits and
drawbacks of
each mod**

matter how far the piston has to go.

Piston side load is how hard the piston rubs against the cylinder's walls. Though the piston moves in a straight line, the connecting rod attached to it moves in an arcing motion as it follows the rotating flywheels. This arcing motion causes the piston to press hard against the rear face of the cylinder wall when the piston is pushing down on the rod during the power (down) stroke. The arcing connecting rod also presses the piston against the front side of the wall on

the compression and exhaust (up) strokes. The farther the crankpin is from the center of the flywheels (or the longer the stroke), the more severe the connecting rod's angle (arcing motion) to the vertical moving piston, which increases the piston's side loads.

However, a small stroke increase should not run you afoul of the drawbacks of a long-stroke engine, but it will still give you lots of power! I've been building and riding big-bore/stroker motors since the mid-1970s and, in my opinion, regardless of how you go about it — bigger bore, longer stroke, or both — nothing beats the power or sound of a big motor, especially when it's roaring off the line or down the highway!

See you on the road,

Chris

Chris Maida
Editor



Chris Maida



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Mad Max Is Back!

FROM DIRECTOR George Miller, originator of the post-apocalyptic genre and mastermind behind the legendary *Mad Max* franchise, comes *Mad Max: Fury Road*, a return to the world of The Road Warrior, Max Rockatansky. Haunted by his turbulent past, Mad Max believes the best way to survive is to wander alone. Nevertheless, he becomes swept up with a group in a War Rig driven by an elite imperator, Furiosa, fleeing across the Wasteland from a Citadel tyrannized by the Immortan Joe, from whom something irreplaceable has been taken. Enraged, the Warlord marshals all his gangs and pursues the rebels ruthlessly in the high-octane Road War that follows. Tom Hardy (*The Dark Knight Rises*) stars in the title role in *Mad Max: Fury Road*, the fourth in the franchise's history. Oscar winner Charlize Theron (*Monster*, *Prometheus*) stars as Furiosa. The film is scheduled for release on May 15. For more information and to see the trailer, visit MadMaxMovie.com.



Matt Levatich Becomes H-D CEO

HARLEY-DAVIDSON HAS NAMED MATT LEVATICH, CURRENTLY PRESIDENT AND CHIEF OPERATING Officer of Harley-Davidson Motor Company, to succeed Keith Wandell as president and chief executive officer upon Wandell's retirement on May 1.



Levatich, 50, joined Harley-Davidson in 1994. Prior to becoming president and COO of Harley-Davidson Motor Company in May 2009, Levatich held wide-ranging roles in the US and Europe including vice president and general manager of Harley-Davidson's Parts & Accessories business, vice president of materials management, and president and managing director of the company's former MV Agusta business. In addition to an undergraduate degree in mechanical engineering from Rensselaer Polytechnic Institute, Levatich holds a graduate degree in engineering management and a MBA from Northwestern University.


"It's a great honor to become the next CEO of this iconic company," says Levatich. "As we look to the future, we believe there are tremendous opportunities to build on our many strengths. Harley-Davidson is one of the world's most powerful and revered brands, and through our strategies to provide unrivaled products and experiences for our customers, we aim to extend our reach and work to realize our full potential as a growing global company." For more information visit Harley-Davidson.com.



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H-D Takes LiveWire Global

RIDERS AROUND THE WORLD WILL HAVE THE chance to add their voices to help shape the future of Project LiveWire, Harley-Davidson's first electric motorcycle, as the Motor Company's Project LiveWire Experience tour expands globally in 2015.

Building on the excitement of Project LiveWire's debut last year, select consumers in Asia, Europe, Canada, and the US will have an opportunity to ride and provide feedback on the bike, helping to guide the development of the new motorcycle.

Highlights of the 2015 tour, which encompasses events in eight countries on three continents, include a contest for riders throughout Europe to enter for a chance to be one of the first 1,000 people to ride Project LiveWire at one of five locations in the United Kingdom, France, Germany, Italy, and the Netherlands from May to August as well as a 13-stop tour in the US and Canada, visiting select Harley-Davidson dealerships and consumer events beginning in April.

For more information, visit ProjectLiveWire.com.

Stop Motorcycle Checkpoint Funds

ON FEBRUARY 12, CONGRESSMAN JAMES F. SENSENBRENNER (R-WI) circulated a letter to inform his fellow members of the US House of Representatives that he will soon be introducing legislation to end the federal funding of motorcycle-only roadside checkpoints. Currently the federal government can and has supplied cash to states to conduct mandatory motorcycle-only checkpoints. This legislation, which will be known as HR 1861 or the Stop Motorcycle Checkpoint Funding Act, would put an end to that.

The Motorcycle Riders Foundation (MRF) obviously strongly opposes this sort of discrimination. "Pulling law abiding motorcyclists off the road does not make anyone safer and is a waste of taxpayer money and law enforcement harassment at its worst," says Jeff Hennie, vice president for government relations and public affairs for the MRF.

The MRF urges you to contact your representatives in Congress and ask them to join in support of this important legislation as an original co-sponsor. You can reach the capitol switchboard at 202/224-3121, and you can find the name of your representative at House.gov/Representatives/Find.

Riding the Web

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Lindby Custom announces its new smartphone-friendly web site, which makes visiting on the go easier than ever. Now anyone with a smartphone can go to LindbyCustom.com to see its full catalog of custom highway bars and other parts. Not only can you place an order straight from your hand, but you can pull up instructions as well.

MarlinsClocks.com

Marlin's Genuine Accessories launched a new site to better display and sell its products in a safe, secure way. Marlin's is known for its bike-mounted clocks, thermometers, compasses, smartphone holders, head temperature gauges, and oil temperature and pressure gauges. The new site features installation videos, an application guide, a complete library of installation instructions, tips and tricks, company history media, and Marlin's Deal of the Day sales.

End Motorcyclist Profiling!

IN AN EFFORT TO CURTAIL MOTORCYCLE PROFILING, HF 59 WAS INTRODUCED IN THE MINNESOTA House of Representatives. American Bikers for Awareness, Training, and Education (ABATE) of Minnesota, working together with a large cross section of active motorcyclists, fully supports this bill and awaits action in the Minnesota Senate. Please contact Minnesota State Rep. Tony Cornish, chair of the public safety committee at Rep.Tony.Cornish@House.MN and ask him to allow this bill to have a hearing in his committee.



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Lane Splitting In TX, TN, WA

THE AMERICAN MOTORCYCLIST Association (AMA) supports the efforts of Texas, Tennessee, and Washington motorcyclists and politicians to enact laws during this legislative session that would permit riders to travel between cars using the maneuver commonly known as lane splitting.

Two bills under consideration in Texas would legalize this practice. HB 813, introduced by State Rep. Sergio Muñoz Jr. (D-Palmview), would allow riders to ride between lanes of traffic moving in the same direction if traffic is traveling 20 mph or slower and if the bike is not traveling more than 5 mph faster than other traffic. Lane splitting would be prohibited in school zones and in areas where the posted speed limit is 20 mph or less. And riders and passengers must wear helmets. SB 442, introduced by state Sen. Kirk Watson (D-Austin), omits the helmet provision, but restricts lane splitting to limited-access or controlled-access highways.

In Tennessee, HB 1102, introduced by state Rep. Timothy Hill (R-Blountville), would permit lane splitting when traffic is moving at 45 mph or less and if the bike doesn't exceed posted speed limits. Lane splitting would not be permitted in marked school zones when a warning flasher or flashers are in operation.

In Washington, SB 5623 would allow motorcyclists to pass a car in the same lane when traffic is stopped or is moving at 25 mph or less. Under the bill, motorcyclists who split the lane could travel no more than 10 mph faster than the flow of traffic. The bill also makes it an infraction for a motorist to intentionally impede a motorcycle that is attempting to pass. For more info, visit AmericanMotorcyclist.com.



J&P Open House New Location

THE 36TH ANNUAL J&P CYCLES OPEN HOUSE RALLY, SCHEDULED FOR June 27-28, is being moved to a different location than the usual J&P headquarters. This year, the rally is being held at the Jones County Fairgrounds, located in Monticello, Iowa, just 10 miles north of Anamosa. The size of the event is the main reason for the move as it has grown tremendously over the years. A free concert on Sunday, June 28, will feature the rock band, Great White. Visitors can see Cowboy Kenny's Steel Rodeo, an action-packed freestyle motorcycle exhibition that features high-in-the air acrobatic and daredevil-style jumps as well as other stunt riding. Cowboy Kenny's Steel Rodeo will perform at various times throughout Saturday and Sunday. Those attending will also get to see the latest motorcycle wares from some of the biggest names in the industry. More than 100 motorcycle manufacturers will be on site. This family-friendly event will also feature special entertainment just for children. For more information, visit JPCycles.com.

PM Launches Be Iconic Tour

AS PART OF ITS 45TH ANNIVERSARY CELEBRATION AND ITS BE ICONIC ADVERTISING CAMPAIGN, PERFORMANCE MACHINE (PM) has designed a road show tour dubbed the Performance Machine Be Iconic Tour. The tour honors every PM customer that purchases and installs a set of PM wheels from the famous PM Blue Rig at a motorcycle rally, making

these customers and their machines iconic in their circle. With a wheel set purchased and installed, PM will give its customer an Iconic gift and an exclusive photo of their cool bike in the PM Iconic booth that will be printed inside a custom PM Iconic frame. For the full event schedule and to look at PM's offerings, visit PerformanceMachine.com. AIM



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PERFORMANCE EXHAUST

COBRA.

All-Purpose Machines

AS I LOOK ACROSS THE WIDE SPECTRUM OF today's choice of motorcycles, I'm amazed at the width and breadth of the models that are designed and sold with rather limited applications

and narrow purpose in mind. I'm also amazed at how, through marketing and persuasion, some manufacturers have convinced the riding public of the purity of this vision. Worse yet, many people have bought into this idea — lock, stock, and barrel — of purpose-built motorcycles. It hasn't always been that way, though.

Leading today's parade of purpose-built bikes are touring models that are intended for long- or medium-distance riding. Direct from the factory and outfitted with gobs of power and enough band width to swallow hundreds of miles of asphalt in any given day, these touring machines also come with a host of accessories that cater to the whim of your every touring need. From saddlebags and adjustable windshields to heated handgrips and MP3 outlets, these behemoths provide comfort and style unheard of just a decade or two ago. Who says you can't take it with you?

Cruisers, those around-town muscle bikes designed to quicken your heart rate and the pace you might struggle to maintain while going from one bar to the next, come in many different sizes and displacements, too. Dripping with chrome and bright colors, cruisers have captured the essence of cool: being seen is as important as being heard.

Dual-sport and adventure-touring motorcycles are street-legal machines designed for both on- and off-road use. They are most popular among riders in areas where a combination of riding on trails, dirt roads, and pavement test their abilities under varied conditions. Were you to attempt an around-the-world venture on two wheels, these usually are the bikes of choice. Correct me if I'm wrong, but I thought all motorcycles were adventure bikes.

Motocross/off-road motorcycles are purpose-built for racing and backwoods fun.

Equally at home in the forest as they are in the desert or on mountainous terrain, they can deliver you far away from civilization and bring you back again to ride another day.

We could go on and on splitting motorcycles into even more genres, classes, and categories, but you see where this is going. Back in the 1930s, Harley produced but a few

models, and enthusiasts modified them to suit their riding needs. For instance, hillclimbers took their Knuckleheads, 45" flatheads, or Peashooters, removed their respective front fenders, headlights, and taillights, and possibly cut the rear fenders before wrapping the rear tires with chains for traction to get up and over a hill's summit.

Class C racing on dirt tracks brought its own set of modifications for 45" flathead models. Competitors taped up their headlights, removed the front fenders, tacked on number plates, and off they went, sliding sideways around the counterclockwise cinder and clay oval tracks in order to crown a champion.

Did you want to compete in the fabled Jack Pine Enduro, a grueling cross-country race over the worst off-road terrain the great state of Michigan could throw at you? No problem. See instructions above, and upon completion of the race, you reassembled your bike for the ride home!

Me, personally, I like the old way of doing things. No purpose-built bikes, just a simple machine ridden by a man or a woman who relied on wits, a few hand tools, and a lot of grit, to compete with. It was a more straightforward approach to motorcycling and life for that matter.

Today my 45" Harley can go from being a Class C racer to a hillclimber to an enduro bike to a cruiser to a full dresser in about an hour and a half tops for any of those styles. That Harley is the all-purpose machine, a bike that offers versatility that's practically unheard of from many of today's models. Perhaps it's time that we get back into a 1930s mindset and "open the aperture" on how we look at our machines so that we don't limit their use to what the manufacturers say they were built for. And like all the motorcycles I've ever owned, I consider my 45" my adventure bike! **AIM**



I like the old way of doing things. No purpose-built bikes, just a simple machine ...



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PERFORMANCE EXHAUST

COBRA.

Time To Act!

LET'S BE HONEST: THERE'S NOTHING SEXY ABOUT legislation. In fact, legislation can be so boring and mind-numbing that most people just ignore it and hope it simply goes away. But it's

important that I point out a couple of major pieces of national legislation that might seriously impact you and your riding habits.

I'm currently working on two major pieces of legislation before the United States Congress that might be of interest to bikers. One bill affects how you ride and the other impacts what you ride.

The first issue has to do with how you ride. Currently, the federal government has funding that supports motorcycle-only mandatory roadside checkpoints. That's right, your tax dollars are used by the federal government to pull you and your buddies over during a warm, clear, dry day just because you all happen to be riding motorcycles. Meanwhile minivans, cars, trucks, you name it, continue to cruise by, their operators delightfully distracted by no less than cellphones, DVD players, audio systems, call-out directions from busy GPS programs, not to mention, in some instances, several children in the back seat who are more concerned with their well being than your safety as a bike rider.

It all started in New York State back in 2006 when state troopers there were instructed to set up motorcycle-only roadside checkpoints. Was it revenge on the Empire State's motorcycle community? Perhaps. Was it a chance to gain a windfall of cash for the state's dwindling coffers? Maybe. The story goes that one of the troopers driving a 4WD police vehicle had been in pursuit of a motorcyclist riding a large-bore sport bike. The big SUV simply was the wrong tool for pursuit of a fast and nimble machine like the sport bike, and, unfortunately, the trooper lost control, hit a tree, and was killed on impact. Not long after that, the first motorcycle-only checkpoint was set up near East Fishkills, New York. Checkpoint zero, if you will. Officials from New York State won't say exactly how many citations were given to targeted bikers that day, but estimates are about half of the 280 or so riders pulled over were cited for

various infractions. The roadside stop obviously raised a lot of cash for the NYSP because they've been expanding the frequency and number of checkpoints each summer. And it's all funded by your tax dollars.

Here's how you can help fix that: The United States Senate has introduced S-127, and by the time you read this, the

US House of Representatives will have likely introduced HR-1861. Both of these bills, if passed into law, end the federal funding for roadside checkpoints. If passed, law enforcement wanting to conduct motorcycle-only checkpoints in the future can use only state funds, not federal dollars, to finance the roadside stops. To help make that happen, we all need to contact our respective US Senators and Representatives to urge them to vote yes on these bills. Start by calling the US Capitol switchboard at 202/224-3121, or contact them directly through their local offices.

As for the legislation that impacts what you ride, this one pertains to ethanol-blend gasoline. Recently, the EPA increased the allowable amount of ethanol in gasoline by 50 percent, going from 10 percent (E-10) ethanol to 15 percent (E-15).

However, prior to establishing the new limit, the federal agency did zero testing of the new blend, and now evidence shows that 15 percent ethanol in gasoline might have adverse effects on the internal components of a motorcycle's powertrain and fuel delivery system. Bill HR-21 in the U.S. House of Representatives will halt the sale of E-15 ethanol, plus establish a commission to study what the real-world effects of the higher ethanol blends have on our engines. This bill essentially touches everyone in the country because straight-up unleaded fuel is nearly nonexistent in every state.

Members of the Motorcycle Riders Foundation ask you to join the fight to prevent the sale of E-15 fuel mix. Feel free to contact the MRF, should you have any questions and concerns, and then join the fight.

Editor's note: Jeff is the VP of government relations for the MRF and serves as its lobbyist. He is responsible for informing and coordinating action with regard to legislation, executive action, or judicial decisions that affect motorcyclists on both state and national levels. Follow Jeff on Twitter @jeffrey_hennie.



One bill affects how you ride and the other impacts what you ride

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WE GET THOUSANDS AND THOUSANDS OF visitors every year here at Stokers Dallas Motorsickle Shop and Stokers Ice House Beer Joint. Lots of times I personally give people a private tour of the joint. My little "empire" here

in Dallas is a pretty big place. I have about 50,000 square feet under a roof on 2-1/2 acres of land just a few miles northwest of downtown Dallas. I have a selection of my personal bikes displayed in the showroom. I always find it amusing when people are surprised that I own and ride a bagger. Why the heck would that surprise anybody? Beats me. I mean, I own lots of cool custom bikes like choppers, bobbers, Pro-Streets, and, yes, a few baggers. I tell people that if I'm riding around town, I usually ride my Long Bike, which is a hardtail chopper with a Pat Kennedy frame and a Sugar Bear springer front end. But if I'm going somewhere of distance, I want to be a little more comfortable, so I ride my customized Victory Cross Country. I also own a Road King and a Street Glide, which are good, but my Vic rides much better, is more reliable, and has more horsepower. But that's a story for another column!

Now, listen. I absolutely *love, love, love* riding my custom choppers, but sometimes I want to actually go somewhere that requires riding hundreds or even thousands of miles of riding and packing some gear with me. I have no desire to make that trip on my chopper! Actually, I would love to make that trip on my chopper, and I have made more than a few long trips on choppers, but that's when I wore a younger man's clothes. I think it'd probably kill me at my current advanced age! In the last few years, I've ridden my Vic to Arkansas, California, Austin (twice), Phoenix, Louisiana, Alabama, New Mexico, Santa Fe (twice), and Galveston, Texas!

Baggers are popular for many reasons. They do a great job of blocking the wind and rain. Most baggers also offer a smoother, better ride than other production bikes. Not to mention I can carry so much junk — I mean stuff — with me. Do you know how many tie-dyed shirts I can get in the saddlebags of a bagger? Mucho! Plus I can plug in my iTunes and listen to my music. To me, music on a road trip just makes the road a little smoother, the rain a little softer, the cold a little less brutal, and the sun a little friendlier.

Music on a road trip actually frees my mind to wander, letting me think about important things like bikes, babes, and beer! (And sometimes not in that order!)

Every year, I take an annual "Chump" trip with a few pals somewhere, anywhere! My pal Joe T pulls a trailer with his Victory Vision or his Victory Cross Country, and we put our golf clubs inside. Yes, I'm a golfer and, yes, we

like to combine our Chump trip with a little golf. Anyway, nosey, a few years ago, we were riding through Oregon, and it rained on us for two days. It was that constant, heavy downpour kind of rain, like a cow pissing on a flat rock kinda rain! While the scenery was pretty, the rain made it not so fun. The saving grace was my iTunes. If I'm listening to music I dig, then the stinkin' rain doesn't seem to bother me so much. I can hear ol' Hank Sr. singing: "*Just a deck of cards ...*"

Okay, I'm back now. I think everybody should have at least two bikes: a cool custom motorcycle for local riding and a cool custom bagger for serious riding. Make no mistake: a bagger can be cool and comfortable at the same time. One of my companies is RF Custom

Parts.com; we specialize in custom Victory motorcycle parts, and my personal Vic bagger is loaded with them! Yes, I have a 26" front wheel and, yes, it handles perfectly! Those who say a bike doesn't handle well with the 26" front wheel, well, let's just say they're full of ... stuff. If a competent motorcycle shop does the necessary modifications to install a big front wheel, then the bagger should work great with no handling issues whatsoever. But, if some "shadetree" mechanic does the work, then you're putting your life in a "shadetree" mechanic's hands. Don't do it! It ain't worth it! Let us professionals do that job!

So, anyway, don't be surprised if you see me blowing through your town on my Victory bagger, singing right along with ol' Hank at the top of my lungs. But also don't be surprised if you see me scooting through town on my hardtail chopper. Either way, you'll know it's me when I blast through town! Have I mentioned that I love custom motorcycles?

P.S.: scratching & wondering. Whatever happened to wooden nickels? And why all them old men told us not to take any!



Add some golf clubs

Rick owns Stokers Dallas Motorcycle Shop, Stokers Ice House Beer Joint, Stokers Ink Tattoo Parlor, RF Custom Victory Parts, and Big State Foundation Grill. Check out his web site at StokersDallas.com.

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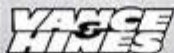
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WHAT A RELIEF! Twenty years ago, I founded the Relief Bus to help the homeless in New York City. Now I'm riding my 1999 Road King Classic coast to coast and back again to raise awareness and funds for the homeless to help them turn their lives around. I've ridden my Road King, now with 54,000 miles on it, through 35 states, including a ride to Sturgis in 2004. My Relief Bus ride will add six more states and cover 6,385 miles.

RICHARD GALLOWAY
Via Internet

FREEWHEELING WITH MY WIFE

Nearly two years ago, my wife, Judy, just about gave up riding for good ... that's until Harley-Davidson came out with the Freewheeler! You see, back in January 2012, I bought my wife the newly released Switchback. We were excited to travel the roads together, experiencing America as only motorcycle riders can. At first, she enjoyed the

bike, but after a few drops and tipovers due to the bike's weight and high center of gravity, she quickly grew afraid of it and was too frightened to even get on it. She wasn't enjoying riding anymore, so we sold the bike with less than 1,200 miles on the odometer and went back to two-up riding. She kept telling me she wanted to see what a trike or a Can-Am Spyder would be

We welcome letters on any subject, whether we agree with the writers or not. Electronic letters, both with and without photos, can be e-mailed to Letters@AmericanIronMag.com. Photos should be high-resolution, JPEG images (at least 300 dpi at 4" x 6"). Please also include your name, address, and a brief description of each photo. And although we reserve the right to edit, shorten, or change your letters so they make no sense at all, we do promise not to mess with your images. That means no phony mustaches, tutus, etc. (However, we may slip an issue of *American Iron Magazine* into the photo somewhere.)



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Russ was inducted into the Sturgis Motorcycle Hall of Fame, the only attorney ever to receive this honor. His commitment to the motorcycle community resulted in "BAM" (Breakdown Assistance for Motorcyclists), a FREE nationwide volunteer program of 2,000,000 riders helping riders everywhere in the U.S. We go the extra mile for our clients and our friends. Our business model is built on relationships and trust.

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I recommend Russ Brown Motorcycle Attorneys highly as they were fast and efficient when I needed them most. They fully appreciate riders' needs as they ride and understood my situation fully. I have no regrets and am very happy with the outcome. When the unthinkable happens, it's good to have them on your side. I wouldn't consider anyone else, neither should you.

”

-Thank you,
Rick Rademacher

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like to ride. Thinking the Harley-Davidson Tri Glide would be too big for her, I kept putting off the idea, thinking she would be better on a smaller motorcycle. Then, lo and behold, the Freewheeler emerges! Within 24 hours of seeing the bike on the showroom floor, she was back in the saddle and fully confident about riding again. We're now enjoying the highways and byways as they should be enjoyed. In fact, we just came back from a nearly 1,400-mile trip from Salt Lake City to Santa Fe, New Mexico, then back to Salt Lake City through Colorado. Thank you, Harley-Davidson, for bringing the spirit of riding back to my wife!

DAVID DAVIS
Salt Lake City, UT

INDIAN SHOULD HONOR RECENT HISTORY

I don't understand why the new Indian Motorcycle



company doesn't acknowledge the Gilroy Indians or the Kings Mountain Indians. Polaris' Indian seems to go out of its way to avoid them and go back to the Springfield era of Indians. If it weren't for them and the interest they sparked, Polaris certainly wouldn't have even considered Indian as a viable venture. I recently went on a ride with my buddy Gary Heeke to Bloomsburg, Pennsylvania, and decided to stop at Bill's Old Bike Barn at Bill's Custom Cycles. I rode my 2014 Indian Chief Vintage, and Gary went on his 2000 Indian Chief Silver Cloud.

DAVE CALP
Finksburg, MD

ISN'T SHE LOVELY ... Here's a 1985 picture of me with Nancy Rae Mallery, one of the factory-sponsored



Ms. Harley-Davidson Contest finalists. Although she wasn't the first place winner at the Daytona Bike Week

event, she was later selected to be Ms. Harley-Davidson of Washington at the dealership located in Fort Washington, Maryland. How many readers remember The Motor Company's annual contest for women riders back in the

1980s? Ride with pride.

JACK M. SANDS
Waldorf, MD

HAND-ME-DOWN SHOVEL I've enjoyed reading *American Iron Magazine* for many years. I'm always looking for-



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ward to Buzz's and Chris' columns along with the tech, ride reviews, advice from Donny, new builds, how-to articles, and the vintage machines.

In the summer of 1985 while at Burt's Harley Shop in Keene, New Hampshire, with my best friend, Jim, who was looking for a new ride to replace his Sportster, I fell in love with this 1984 Shovelhead Low Rider. I've enjoyed this Shovelhead from then until the summer of 2012, including riding it to Sturgis in 1990.

My nephew Wes always showed an interest in my Shovelhead with him riding on the backseat in the summer of 1991. In January of 2008, I purchased a new Heritage Softail, which replaced the Shovelhead as my main ride. In the summer of 2012, Wes was working at a local Harley dealership, had taken the new rider course, and was ready to take over the care of this Shovelhead. Here's a proud and happy Wes on the Shovelhead, after making some minor changes to make it his Low Rider.

Riding alongside Wes and listening to him talk about his Low Rider, I know this machine has found a great home. Thanks for a great magazine and many miles of safe and happy riding to all!

BRUCE SWEENEY
Lancaster, OH

CAM CHAIN TENSIONERS Chris, I just wanted to thank you for your heads-up about cam chain tensioners in issue #313 of *American Iron Magazine*. After reading about the problem, I checked the odometer on my 2003 Heritage. It was at about 35,000 miles, so I brought it to the dealership and the guys called the next day. The tensioners were indeed shot. The tech told me he had seen a lot of these. I had them put in the new hydraulic

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unit, and she's running great. If it had not been for you, I'd be singing a different tune; you saved me a lot of grief, which is more than can be said for The Motor Company.

DAVID BELLES
Little Rock, WA

You're very welcome, David! I'm glad you we were able to catch it in time.

— Chris Maida

HIGHWAY TAX RESPONSE I support Jeff Hennie's suggestion (#318) to increase the highway tax to repair roads and bridges only if it can't be diverted elsewhere. Social Security was well funded until they diverted the money elsewhere.

BILL COPELAND
Via Internet

JUST WAITING ON A LARRY I've subscribed to *American Iron Magazine* for 10 years or so. This is my 2013



FLSTN Softail Deluxe. I bought it last June as a leftover at my local H-D dealership with seven miles on the clock. I still can't imagine why it sat on the floor so long before I found it. I got a great deal because of that! I guess she was waiting for me. My wife rides with me often. I think this pic of my bike and me will look awesome in your magazine and will definitely help sell more copies on the stand.

LARRY P. STROCK
Via Internet

We hope so, Larry! Thanks for thinking of us! — AIM staff



FORD EDITION H-D I purchased this 2005 Road King Classic in 2012 from Dixie Cycles in Pompano Beach, Florida, as a retirement gift for myself. I've always liked Harleys but spent all my younger years buying and fixing up Mustangs. I'm a Ford guy, so I wanted my bike to be Ford Blue, which took me a year to find. I put a small Ford decal on the lower part of the rear fender, and when people ask about it, I tell them this is a special Ford edition. Just like Ford made a Harley-Davidson pickup truck, Harley-Davidson

made a special Ford edition motorcycle. You wouldn't believe how many people actually believe that, but I always tell them afterward that I was just pulling their leg. The King was mostly stock when I got it, but I've since added a tinted windshield, solo seat, rear fender rack, bag protectors, tank pouch, oil

cooler, cylinder head cooler, and lots of chrome items. Trying to go with that old-school look. My wife is not a big motorcycle fan, but I still love her just the same.

MICHAEL "MAD DOG" MARSHALL
Jackson, TN

FREEDOM IS ABOUT RESPONSIBILITY? In issue #317, Mette Helena Elfving knocks Jeff Hennie for writing "against the United Nations [UN] resolution for Global Road Safety" in his #312 column regarding the use of helmets and tampering. While it's true that the government, in general, as well

as other governing bodies, should tend to more important issues, I doubt that Mr. Hennie was advocating riding without a helmet. It seems to me that he was simply saying that this UN agency has no business making these kinds of recommendations. Mette states that freedom is about responsibility. Personal responsibility? Or government-imposed responsibility? In the end, the only one who can really look out for you is you. I wear a helmet and ride with the appropriate riding gear, but I also believe that this responsibility should be left up to the individual. Anyone who rides is already aware of the risks involved. Mr. Hennie, your advocacy on behalf of the riding public is much appreciated.

RICK B.
San Jose, CA

HEAD WEST, YOUNG MAN! As I was filling my snowblower with gas to do battle with another Michigan snow



storm, I looked over at my covered and winterized 2007 FLHTCUI and thought about the trip.

I traveled US Route 2 west across the Upper Peninsula of Michigan into Wisconsin, Minnesota, North Dakota, traveled on the Going-to-the Sun Road, saw the Cascades and the Evergreen Aviation & Space Museum, and traveled on California's State Route 1, America's Loneliest Road, and on an even lonelier US Route 93 in Nevada. I spent a week traveling around Colorado, enjoying mountain passes and more awesome scenery. After 18 states (counting Arizona and New Mexico at the Four Corners), 7,600 miles, and a new rear tire, I was home, feeling much better, and planning the next great trip.

RANDY TAYLOR
Flushing, MI AIM



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BATTERIES

Part I: Lead-acid, AGM/maintenance-free, gel, and conventional batteries

NO MATTER WHAT YEAR OR MODEL STOCK Harley-Davidson, or any other stock motorcycle, you ride, if it was made in the last 70 years, they all have one thing in common: they all have a battery. Most riders don't give the battery in their V-twin much attention until the engine doesn't crank over fast enough to start, or the only sound heard when the starter is pressed is a click. Then the battery becomes the center of attention!

Technically speaking, a battery is a device that converts chemical energy to electrical energy. It's important to understand that a battery does not actually store electricity. Rather, it only stores the chemical energy necessary to produce electricity. The chemistry used depends on the type of battery. In this two-part article, we'll take a look at how batteries work, the various types of batteries available, how to activate them, and how to charge them. Lead-acid batteries have been around for over 150 years and are by far the most common battery used for motorcycle applications.

This article was independently researched and technical in-

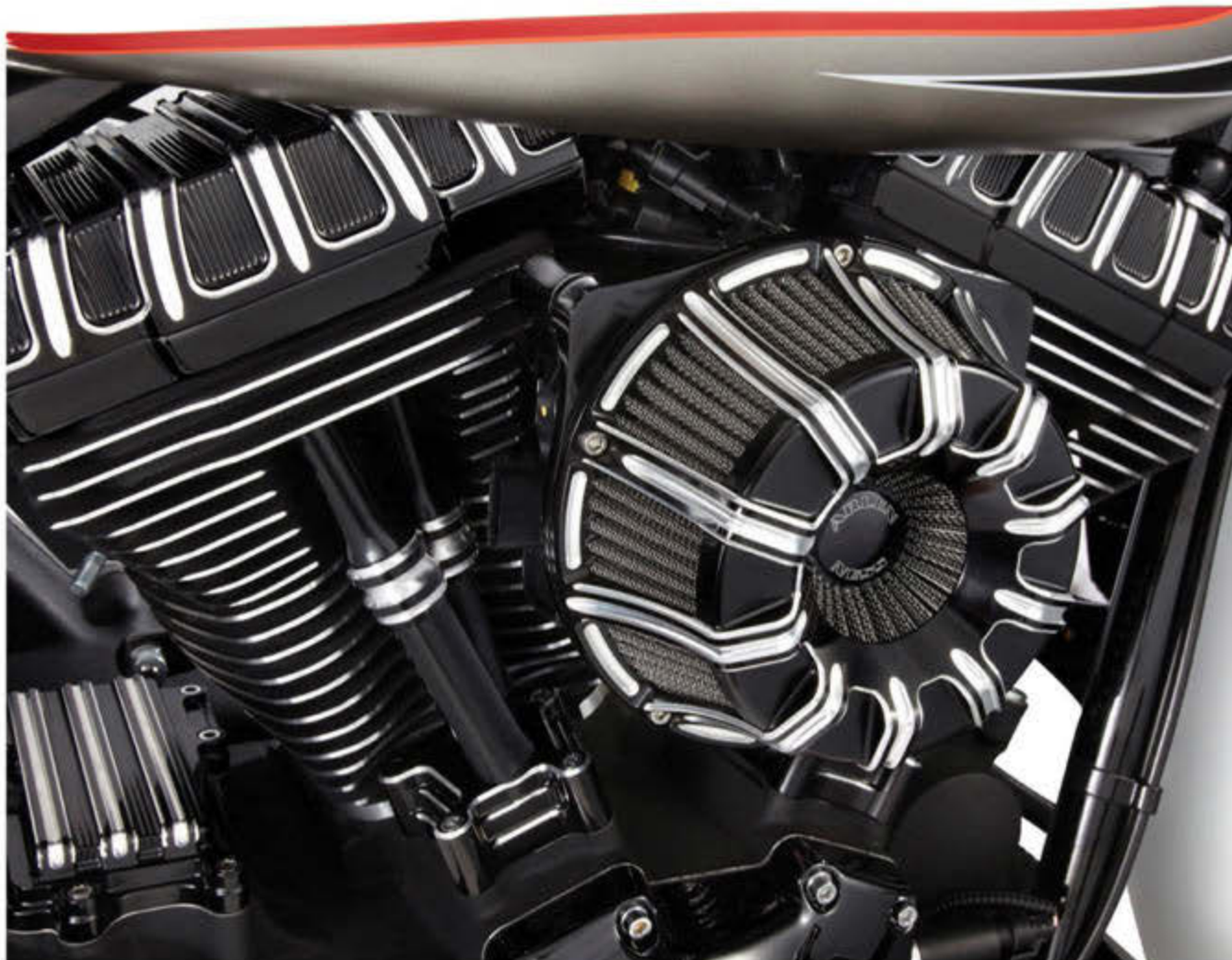
formation was gathered from a variety of sources. The opinions and conclusions regarding how well particular batteries perform do not necessarily reflect the views of any specific company. To understand how a battery operates, it helps to know what it is supposed to do.

The Battery's Jobs

A BATTERY HAS TO PERFORM THREE JOBS. First, it has to provide electrical power for engine starting. Modern motorcycles don't have kickstarters, with the exception of a small off-road bike. The days of kickstarting a V-twin, or other large displacement motorcycle engine, are long gone. That is, unless you're riding a hot rod little bobber! Riders of a certain age will perhaps remember what it's like to kickstart a Harley, Triumph, or BSA to

These modern-day versions of the lead-acid battery have been around for over 150 years. A conventional battery with filler caps (top left), AGM maintenance-free battery (top right), and a conventional six-volt battery (up front).





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HOW IT WORKS

life on a cold morning. It's a task that not only requires muscle, but also some degree of skill.

A battery's second job is to supply additional electrical power when the bike's charging system can't keep up with the bike's electrical demand. On many modern motorcycles, most of the charging system's capacity is used by the lights, fuel pump, and the fuel injection system. When nonfactory electrical components are turned on, and the stock charging system doesn't have enough output, the battery supplies the additional current to power them up. This usually occurs when the engine is being run at lower than normal operating speeds and/or aftermarket electrical accessories have been added (heated clothing, extra lighting, or a 1,000-watt stereo!).

The third job is to act as a voltage stabilizer for the charging system. Motorcycle charging systems need something to "push" against to keep from producing excessive voltage. In addition, high-voltage spikes may be produced when turning on, or off, certain electrical circuits. These fluctuations in voltage are partially absorbed by the battery, which protects solid-state components, including computers and ignition systems, from damage.

Lead-Acid Battery

TO UNDERSTAND THE PROCESS OF CONVERTING chemical into electrical energy,

we need to take a look inside a battery. A battery's case is divided in sections called cells, with a 12-volt battery having six cells that produce 2.2 volts each (depending on battery type) for a total of 13.2 volts. A 6-volt battery has only three cells with a total voltage of just over 6 volts.

These cells consist of lead plates, half of which have a positive charge and the other half a negative charge. Within each of the cells the plates are stacked alternately: negative, positive, negative. Insulators or separators (usually made from fiberglass or treated paper) are placed between the plates to prevent contact. The alternating plates in each cell are connected at the top of the cells to form two grids, or groups, one positive and one negative. Each cell's groups of plates are then connected in series (positive to negative) to those in the next cell.

The material that these positive and negative plates are made from produce electricity when they're immersed in a solution made up of sulfuric acid and water that's called electrolyte or battery acid. When an electrical load (light bulb, starter motor, fuel pump, etc.) is placed across the battery's terminals, a chemical process starts inside the battery that produces electrical energy. When the battery provides power to an electrical device it discharges. In fact, batteries are constantly either discharging or charging,

and during either process, ions (atomic particles) are transferred from the positive and negative groups of cell plates.

As the battery discharges and ions are moving from one plate to another, the ratio of battery acid to water changes, which causes less sulfuric acid and more water. This process produces a chemical byproduct called lead sulfate that coats the battery plates within the cells. As the plates become coated, the surface area over which the chemical reaction of producing electricity is reduced and less electrical current is available. This is the reason why an engine's starter motor can't be cranked indefinitely, as well as other electrical loads left on for long periods of time without the battery going dead. As long as the battery is being used to provide power to an electrical device its ability to produce electrical current is constantly being reduced. The battery must be recharged to reverse the chemical process of discharge and increase the usable surface area of the plates. Without battery charging, the lead sulfate will continue to develop and becomes difficult, if not impossible, to break down. If the battery becomes too discharged, total failure of the battery is likely as the lead sulfate cannot be removed no matter how much the battery is charged.

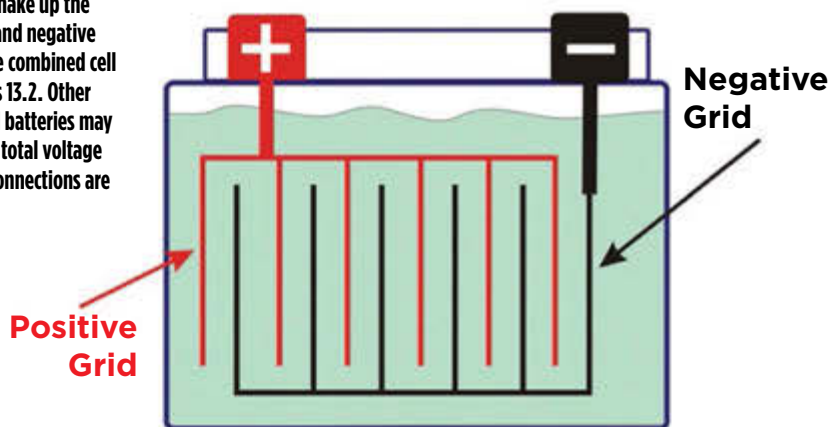
There are two types of lead-acid batteries, maintenance-free and conventional. In this article we'll use Yuasa batteries (YuasaBatteries.com) as examples of both types as Yuasa is the world's largest manufacturer of power sports batteries, and its products are installed as factory equipment on many motorcycles.

AGM Battery

MAINTENANCE-FREE BATTERIES HAVE been around for years and don't require that you check water level or add water during the entire life of the battery. They are also known as AGM (absorbed glass matt) batteries and look different than conventional batteries as they don't have filler caps or a vent tube. AGM batteries are more compact than a conventional battery because there's no free battery acid in the cells making them more volume efficient in that they take up less space for their energy storing capacity. AGM batteries are ideal for long-term storage on vehicles that include riding mowers, personal watercraft, scooters, and motorcycles that are not ridden in winter. In addition, an AGM battery is an excellent choice for use in vehicles

This graphic shows how battery cells are connected inside the battery. Six cells make up the positive and negative grids. The combined cell voltage is 13.2. Other lead-acid batteries may have less total voltage but the connections are similar.

12 volt Battery (Six Cells)



Each cell is 2.2 volts

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HOW IT WORKS

where acid spills occur (ATVs, watercraft, and motorcycles).

Unlike a conventional battery (one with filler caps), AGM batteries don't vent gasses to the atmosphere during the charge/discharge process. The construction of the AGM battery causes internal freed gas to recombine inside the battery so no vent tube is required. This technology is referred to as valve regulated lead acid (VRLA) or a sealed VRLA battery. An AGM battery can be sealed because inside the battery the negative plates are never fully charged and therefore don't produce hydrogen gas. The positive plates create oxygen during the discharge process but instead of the oxygen being forced out a vent tube, it reacts with the charged active material on the plates to become water until the battery is charged and the water is transformed into acid. This process is called recombinant technology and is used on most maintenance-free batteries.

Inside an AGM battery, there are separators located between the negative and positive plates that are made of a fiber that is resistant to heat and acid. In addition, there is a matte-like material that absorbs the battery acid. This design makes the AGM battery nonspillable in that there is no liquid acid

contained inside the battery. AGM batteries have an internal safety valve that will open in case of overcharging. The safety valve opens if gas pressure inside the battery reaches a critical point venting the gasses to the outside. The valve also includes a flame arrestor disc that minimizes the risk of explosion.

Most Yuasa AGM batteries are available either factory-activated or as a dry battery with an included acid pack. A factory-activated battery does not require filling before installation. An extensive activation process ensures complete absorption of the electrolyte so no liquid acid is contained within the battery. This process allows these batteries to be shipped from the factory ready to install. The GYZ and YTZ series batteries are only available as factory-activated. An added bonus of a factory-activated Yuasa battery is that they can be mounted in a number of positions, since there's no acid to spill. Yuasa batteries are also available as a dry battery with an acid pack. The part numbers for these batteries end with -BS to signify bottle supplied (i.e. YTX14-BS, YTX20HL-BS). Because the battery is shipped dry, it has an indefinite shelf life before it's activated as long as the foil covering the cells re-

mains intact, undamaged, and airtight. In part II we'll discuss how to activate these types of batteries.

When considering upgrading to an AGM battery that was not original equipment on a Harley-Davidson, check to make sure the charging system has a regulated voltage output between 14.0 - 14.8 volts. In general, older bikes have a charging rate that produces lower voltage (below 14.0 volts) and a conventional battery will be the only option for these motorcycles.

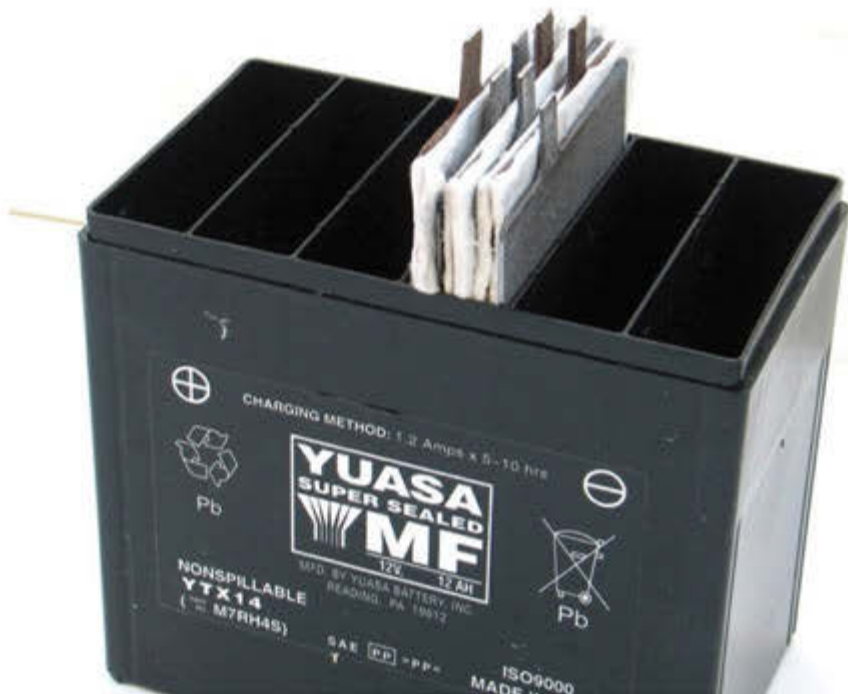
Conventional Batteries

UNLIKE AGM BATTERIES, CONVENTIONAL battery designs have filler caps and vent tubes. Not all motorcycles require an AGM battery and conventional batteries offer good performance and longevity but cost less than AGM batteries. Yuasa manufactures several designs of these batteries: Conventional (YuMicron) and High Performance Conventional batteries (YuMicron CX).

Yuasa YuMicron batteries have more cranking power (up to 30 percent) for their physical size than a standard conventional battery. The plate surface area in the YuMicron is increased by the use of thin, high-tech separators that make room for extra plates within each cell. The YuMicron batteries also use a special inter-cell connector that minimizes internal resistance and further maximizes starting capacity, plus a special glass matte that resists vibration damage. The difference between the YuMicron and the YuMicron CX is the material used in the plates. Conventional and YuMicron batteries both use lead-antimony plates while the YuMicron CX uses lead-calcium. The use of lead-calcium technology provides increased cold cranking amps, reduced water loss (up to 66 percent when compared to a conventional design) and has reduced self-discharge properties resulting in a battery that will hold a charge longer.

While a conventional battery is an ideal choice for a lawn tractor, it may not be for an ATV, watercraft, or motorcycle. Space limitations, engine vibration, terrain (on-the-water vs. off-road vs. mowing the lawn) all affect battery choice and how well a battery will perform over its lifetime. It's a good idea to follow a battery manufacturer's recommendations regarding what battery to install in a specific motorcycle.

Here's how the cells, plates, and separators are placed inside an AGM battery. The six cell cavities are visible and one cell is shown with its negative and positive plates.



continued on page 148

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Harley & Victory

Part I: Tradition and magic

I KNOW SOME OF YOU ARE GOING TO BE ANGRY WITH ME. Two wheels are all about riding what you like as an individual. It's a personal choice. I'm happy that you like your particular ride. It doesn't offend me nor should it. We're all in the same wind.

Harley-Davidson has been building motorcycles for 111 years. It has had more than enough time to get it right. I know this because I've ridden various H-Ds for 44 years now and worked on them for 40 years. Last summer, I was riding down a major highway with two friends. Traffic flow was fast. We were cooking along in the hot sun at about 85 mph. Suddenly a big black bike passed us like we were standing still. I could not tell what it was. Kind of like a Harley but the bike sounded like a Scarab race boat launching out of the water. It sounded nice. It also sounded powerful. The bike had to maneuver through traffic. It changed lanes to pass, then changed back at high speed. Now, I knew for sure it wasn't a Harley. There was no sway. A Harley will sway at high speed when aggressively changing lanes. The chassis needs a bit of time to figure out which way it's going to move. Whatever this

bike was, it was fast and handled well. But I soon forgot about it, seeing as I was enjoying the summer day.

The Magic

I WENT TO THE INTERNATIONAL WORLD of Motorcycles show to look at Harley-Davidson CVOs. My 2007 Street Glide is running fine, but I thought I might get another. For a long time now, traditional Harley riders feel they've been mistreated by The Motor Company. The feeling is that loyalty during Harley's lean years hasn't been acknowledged nor paid back. Moreover, some believe the factory stole the lifestyle, pasteurized it, and marketed it as the H-D lifestyle with HOG et al. This isn't to denigrate HOG, as anyone on two wheels gets my thumbs up. (I laughed when I saw that

The Victory Magnum comes with a 21" front wheel, inverted performance wide glide front end, floating brake rotors, and dual four-piston performance brake calipers.



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Victory has VOG.) However, hurt feelings didn't make many buy another bike brand. I've looked over the years. Many other brands are superior in quality and handle and brake better. Most are faster and all are less expensive, but they lack the Harley magic. A lot of that magic has nothing to do with nuts and bolts. Tradition and the past have been kind enough to bestow the magic on Harley-Davidson.

What is this tradition? Well, it's many things. H-D will talk about its proud tradition of racing. Ahh, but that's not what I'm talking about. For the most part, Harley riders don't care about that. Sportbike riders do, but not us. That said, Victory has entered NHRA Pro Stock Motorcycle competitions with the creation of Victory Factory Racing. The race bike will be patterned after the company's popular Gunner model.

The Motor Company has a military history. Not many new riders know this. There is only one war movie I'm aware of that uses a Harley in it. John Stamos plays the lead in *Born to Ride* (1991). The movie is very good, and it, too, portrays the rebellious but patriotic Harley rider. American and Canadian police forces have a long history with Harley-Davidson. Victory now supplies 40 police forces that I'm aware of. We don't ride a Harley because of this, either.

I think the tradition that creates the magic is one of individualism and rebelliousness that plays itself out on the open road. I think it's an image of America's past, settling the West: cowboys and outlaw stuff. It's one fostered by the original post-World War II bikers and their clubs. Mostly, it's created by the media's sensationalistic reporting of these original riders' lifestyle. Whether you like these clubs or not is immaterial. However, the images they bestowed upon the machine they ride are. These clubs also have a tradition of making a large-displacement, American-made motorcycle mandatory as their ride. There was no other choice!

In the old days, Indian was the only other option, but it went out of business in 1953. We loved our Harleys back then. The dealers treated us well. Why wouldn't they? Many times they were just like us. Back then, our bikes required constant work, which was fine. Half the trip was working on your scooter in a

The Polaris Indian was introduced in 2013 with three models. Will Indian become a favorite with the Harley crowd?



garage with your bros and a case of beer.

Then along came the Honda Gold Wing. It was the only other bike with enough cubic inches. Intellectually, I knew the Gold Wing was superior in every way, but it didn't have the magic. We weren't interested.

From 1999 to 2003, the Indian brand was resurrected. The first ones were Harley clones using aftermarket engines. Some riders liked this bike but not enough. In my opinion, Indian needed a stand-alone bike that was based on its tradition. For the most part, we weren't interested in this option. It, too, went out of business.

The Polaris Victory began production in 1998. Polaris also bought the remnants of Indian more than a decade later. It really only wanted the name because the plan was to develop a traditional Indian using modern, reliable technology. The Polaris Indian was introduced in 2013 with three models. Polaris has done a very nice job. It remains to be seen if Indian will become a favorite with the Harley crowd. Polaris wisely let traditional design rule its styling.

Polaris

POLARIS INDUSTRIES IS AN AMERICAN company well known for its success with snowmobiles and ATVs. It's the new Big Twin biker on the block. Polaris developed the Victory a mere 17 years ago, and it manufactures them in Spirit Lake, Iowa.

I and most of my ilk paid scant attention. I paid even less when the Victory Vision came onto the scene. I knew as soon as I laid eyes on it that Arlen Ness had done the design. In my opinion, Arlen is a bit like Picasso. He can get too far in front of the herd. With that said, I have a

good friend who has ridden a Vision for three years now and he swears by it. Today, Arlen, along with his grandson Zach, working in conjunction with Victory design, have come out with some real good stuff. The design of other Victory models is more subdued than the Vision but still innovative. What other bagger has the coveted 21" front wheel found on the new Magnum? Importantly, neither Victory nor Indian has copied Harley-Davidson. After all, who wants a clone H-D when the real deal is available?

Resale Value

IT'S TRUE THAT HARLEYS USED TO MAINTAIN their resale value. I remember buying a used Shovelhead and after riding it at least three years, saw its resale value climb higher than what I originally paid for it. If you bought a new Shovelhead, this increase in value took longer, but it still happened.

This hasn't been true for Harleys for over 10 years. If you get great resale value now, the purchaser will be a newbie and lack knowledge. Go ask a dealer what he'll give you for your bike on a trade in! Remember all the extras and options you were encouraged to upgrade your bike with, which cost a small fortune? They have zero value to a dealer. The resale value of the Victory Magnum and various Indian models remains to be seen. Will they increase in value? In my opinion, of course not; those days are long gone.

Conclusion

NEXT MONTH I'LL DO A COMPARISON between Harley and Victory.

Donny Petersen
DonnyPetersen.com

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Fat Baggers' Razor-Sharp G3

A Cut Above



text by
eric ellis

photos by
shooters images



Baggers are big business — literally and figuratively speaking. If anyone

understands this, it's Gary Chipp, owner of Fat Baggers Inc. (FBI). For more than 10 years now, Gary and his FBI team have catered to the bagger community, offering wide-tire kits and other components to dress up their bikes. Looking beyond offering just bolt-on parts, though, Gary saw an untapped market to build extremely limited production runs of high-end, turnkey baggers that feature the best of everything — styling, performance, handling, and the latest technology. We're talking about baggers that can be ridden 500 miles to a bike show, and then be entrusted with the task of cruising back home with trophy-laden saddlebags.

What we see here is the latest iteration of FBI's top-of-the-line bagger, the 2015 G3 Razor Limited. This is actually bike No. 2 out of three bikes that were built at the same

time in preparation for the 2014 Sturgis rally. Suffice it to say, all three bikes were a huge hit, and rightfully so; most other custom baggers can't even be compared to the G3 — it's by far a cut above.

If you follow the custom motorcycle industry closely, then you'll recall that last year Gary announced he was going to bring Daytec Frames into the FBI fold. The G3 frame represents the first Daytec from FBI's new venture. A completely new chassis design, the G3 features a fixed fairing, air storage integrated into the frame for front and rear air ride, and some unique chassis dimensions. The rake was set to 30 degrees for a 26" front wheel, allowing a full 3" of fork travel. To further accommodate the large-



TECH SHEET •

Owner: Mike Turner
Builder: Fat Baggers Inc.
Year/model: 2015 Fat Baggers Inc. G3 Razor Limited
Chromer: Fat Baggers Inc.
Polisher: Fat Baggers Inc.
Powdercoater: Fat Baggers Inc.
Painter: Jeremy Dogget, Fat Baggers Inc.
Color: Pearl White and orange

POWERPLANT

Engine: 2015 Harley-Davidson 120R Race
Builder: Harley-Davidson
Displacement: 120"
Air cleaner: Harley-Davidson
Exhaust: Fat Baggers Inc. 2-into-1 stepped header
EFI: ThunderMax AutoTune
Transmission: 2015 Screamin' Eagle six-speed
Clutch: AIM Corp. lockup clutch
Primary drive: Chain
Final drive: RC Components rear pulley

CHASSIS

Frame: Fat Baggers Inc. G3
Rake: 30 degrees
Front forks: Arlen Ness legs
Swingarm: Fat Baggers Inc.
Rear Suspension: Legend Air Ride
Front: Fat Baggers Inc. Air Ride
Front wheel: RC Components Alien 3.50-26"
Rear wheel: RC Components Alien 8.50-18"

Front brake: Hawg Halters Inc. six-piston caliper, 13" rotor
Rear brake: Hawg Halters Inc. four-piston caliper, 11.80" rotor
Front tire: Vee Rubber 26"
Rear tire: Avon 240/40-18"
Front fender: Fat Baggers Inc.
Rear fender: Fat Baggers Inc.
Saddlebags: Fat Baggers Inc.
Fender struts: Fat Baggers Inc.

ACCESSORIES

Headlight: Harley-Davidson Daymaker
Taillight: Fat Baggers Inc.
Fuel tank: Fat Baggers Inc.
Handlebars: Fat Baggers Inc. 1-1/2" single stem
Seat: Fat Baggers Inc./Danny Gray
Pegs: Arlen Ness
Speedo: Dakota Digital
Dash: Fat Baggers Inc.
License bracket: Fat Baggers Inc.
Mirrors: Harley-Davidson
Hand controls: Hawg Halters Inc.
Foot controls: Performance Machine levers
Kickstand: Fat Baggers Inc.
Windshield: Fat Baggers Inc.
Front signals: LEDs
Horn: Air horn
Radio: Cycle Sounds Rock Box with wired controls
Amp: ARC Audio 250 watts, two channel
Speakers: Focal PC 165 6-1/2"

diameter wheel without having to add an excessive amount of rake, the neck was slightly shortened. Farther rearward, the frame's midsection includes a 3-1/2" drop for a lower seating position and narrowed frame rails provide more leg room coupled with a more centralized center of gravity for improved handling.

FBI created new triple trees for the shortened neck, plus the reconfigured trees accommodate the unique single-stem 1-1/2" handlebar system that FBI designed for the package.

Out back, a new

swingarm was machined

to fit a

240mm

rear tire

and then

outfit-

ted

with a

pair of

Legend

Air Ride

Aero shocks.

Up front FBI

integrated its

own air ride sys-

tem into the fork

legs. Then, so that

the rider readily

knows how much

pressure the front

and rear air suspen-

sion are set at, FBI

created its own ECM-

controlled monitoring unit

that operates off a mix of

ride-height sensors, linkages,

and a potentiometer. With this

new design, the rider can save

custom ride heights to manage the

system via an iPad mini that mounts in

the face of the inner fairing.

Powering the G3 is one of Harley-Davidson's 120R Race engines. Grafted to the right side you'll find a 58mm throttle body and Screamin' Eagle Heavy Breather intake coupled with FBI's 2-into-1 stepped header. Delivering a reported 120 hp and 130 ft-lbs. of torque, the team backed up the motor's

**Powering the G3 is one
of Harley-Davidson's**

 **120R** Race
engines

power potential with a Screamin' Eagle six-speed trans and AIM Lockup clutch kit for effortless shifts via the hydraulic clutch.

The bodywork for the G3 is immaculate. When you hear people utter the phrase "looks fast just sitting still," this is exactly what they are talking about. The combination of sweeping bodylines and stretched accents allow your eyes to glide effortlessly from the shark-nose fairing to the recessed panels in the saddlebag lids to the flushed exhaust tips at the very back of the bike. Where stock Harley fairings often overpower the look of a custom bagger, the low profile G3 fairing flows seamlessly into the front of the stretched gas tank as if both components were as one. It helps, too, that the fairing sits 11" lower.

The inner fairing is devoid of the familiar cluster of gauges and stereo head unit that most people are accustomed to seeing on a bagger. A single iPad mini manages the media center (the bike is

decked out with a booming audio system), turn-by-turn GPS, as well as the FBI-based air ride system. The rider can also operate and set the ride height via the controls on the fairing, plus remotely open and close the quick-action electronic saddlebag lids.

Acting as somewhat of an onboard defense system, FBI installed holsters in each saddlebag for the rider's handguns. FBI also fabricated a custom seat pan with another hidden compartment — the perfect size for stashing a Springfield XD-S Single Stack 45. The seatpan was skillfully covered with black gator skin by Danny Gray and with the hidden compartment's hook-and-loop flap left closed, many people never know what's stashed inside.

As the satisfied owner of a Gen 1 Razor Limited, when Mike Turner heard that Gary was working on a Gen 3 version, he realized right away that he had to have one, so he wasted no time signing up. Even so, he had to wait until after the Sturgis rally to take delivery of his new ride because Gary had plans to put some "test" miles on the bike during the rally.

When asked how the G3 handled during the test ride, Gary responded, "This thing is like riding a small Softail.

The Gen 1 version was heavier and had a taller fairing. This bike is much lighter and more stable.

Also, the low-profile, fixed fairing combined with the low center of gravity plays a big part in how well this bike rides and how smoothly it handles. It's the Ferrari of the bagger world."

AIM



2015 H-D V-Rod Night Rod Special

Different as night and day from a Big Twin



HARLEY-DAVIDSON ENTHUSIASTS HAVE A LOVE/hate relationship with the V-Rod lineup that today consists of two, the Night Rod Special featured here and the Muscle. Harley enthusiasts either love a V-Rod with a passion, savoring its lightning-quick performance or they hate it and don't give a hoot how much power can be squeezed from its liquid-cooled, 60-degree V-twin motor. Who cares if that 1247cc (okay, 76.1" in Harleyite tech speak) develops a claimed 126 hp at the crankshaft? The V-Rod, they'll tell you, just ain't a Harley.







NEW BIKE REVIEW

Their reasoning is simple: the V-Rod's peculiar engine has twice as many valves as Harley riders are accustomed to, twice as many camshafts as a Twin Cam (and those bumpy sticks are placed above the cylinders, for crying out loud), while, paradoxically, the transmission has only five gears, one shy of the Cruise Drive's half dozen set of cogs. And where are the V-Rod engine's fins? And more to the point, why isn't there the same low-end grunt that Harley's beloved Big Twins are so known for?

These questions played through my mind as I steered the blue and silver Night Rod Special into the gas station parking lot for a brief pit stop for fuel and ... you know. Parked in front of the gas station's convenience store was a small pack of Big Twins, their owners inside, no doubt shopping for refreshments and smokes or tending to more personal business, which, you know, we really don't need to discuss right now.

I filled up the thirsty V-Rod's under-seat fuel tank, then rolled the V-Rod into the shade near the small herd of gathered Big Twins. (For the record, I logged 33 mpg on that tank, which is less than Harley-Davidson's touted 37 mpg.) I went inside to tend to my own personal business and when I returned to the bike, most of the Harley owners had, by then, gathered around their own bikes. We made eye contact, nodded to acknowledge one another, and then one of them, undoubtedly the alpha male of the pack, volunteered in so many words that my V-Rod was, in his words, "a fast bike."

"It is," I confirmed, and then we shared a couple of war

stories about our respective bikes, and one thing led to another until I informed him that I was road testing this V-Rod for *American Iron Magazine*. He queried me about the Night Rod Special's strongest feature, and my reply echoed his original sentiment: "It's fast," I said.

Indeed, only 20 or so minutes before my pit stop, I had discovered just how playful the Night Rod Special's engine torque could be. I usually do a roll-on in fifth gear from 60 mph to 80 mph to get an idea of a Harley's passing power for our new bike reviews. For the V-Rod, I snicked the five-speed transmission into fourth gear (as I do for Sportsters, too), then twisted the throttle as if I were choking a chicken. Most Big Twins perform this high-speed sprint under five seconds; a low four-second time is considered pretty good. The Night Rod Special's small analog speedometer twisted its needle from 60 mph to 80 mph on the dial in 3.2 seconds, easily a full second quicker than any Twin Cam or Sportster that I've tested for this magazine.

Oddly, the second-gear roll-on from 20 mph to 50 mph wasn't as spectacular, registering a similar 3.2-second time, which closely mirrors most of the second gear acceleration tests achieved with any of the air-cooled Harleys tested here. What gives? Well, the tale is in the tach, or more precisely, the engine rpm registered at the beginning of each run. Start of the fourth-gear run put the rpm at about 4000, right below the V-Rod's sweet spot for torque; peak torque of 83 ft-lbs. kicks in at 6750 rpm. Starting at 4000 rpm allowed the Night Rod to pull strong the moment I thwacked the throttle to open the electronic fuel injection's throttle body.

Conversely, the bike's tachometer in second gear at 20 mph read only 2500 rpm, much farther below the V-Rod engine's torque curve. Twist the throttle at that rpm, and



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you're answered with a slight hesitation as the over-bore engine — bore and stroke measure 4.13" x 2.835" — struggles to gather itself until finally, at about 4000-4500 rpm, you can feel a surge as torque kicks in to propel the 637-pound (claimed dry weight) Night Rod Special forward in a rather entertaining manner. By the time engine rpm reaches a crescendo, 8000 rpm, you're hanging onto the pliable handgrips to begin the upshift to the next gear. By comparison, those Big Twin engines begin to not feel so big.

The Night Rod's amply padded seat holds you steadfast in your riding position, too, and with each upshift, the bike's terminal velocity goes higher and higher. Cruising in top gear reveals a rather smooth ride, too, because the V-Rod engine not only has internal counterbalancers to smooth things out, it's rubber mounted in the structurally rigid frame. A pair of coil-over rear shock absorbers that have well-calibrated damping rates adds to the compliant ride. If there's a weak link in the suspension, it's the inverted fork, which feels slightly softer in relation to the rear shocks' spring and damping rates. Even so, for the most part, this is a smooth-riding motorcycle, and the seat feels comfortable all day, although the same can't be said for the abbreviated passenger pillion.

Turn-in for corners feels rather heavy, not surprisingly

though, given the Night Rod Special's 34 degrees of rake coupled with 5.6" of trail. Add to the equation the massive 240/40R-18" rear Michelin Scorchers 11 tire, and you have the ingredients for a bike that changes direction only after you give the handlebar a healthy dose of countersteering. Straight line riding is clearly its forte.

Braking performance is about in the same league as you'd expect from a Big Twin. ABS is standard on V-Rods, which is nice for maintaining balance during panic stops, but the comparatively puny (in contrast to the big rear tire) 120/70ZR-19" front tire feels overwhelmed during panic braking, causing the ABS to react rather quickly. Our stopping distances from an indicated 30 mph to 0 mph registered a best of 35'. Not bad figures, but surprising for a 637-pound motorcycle.

No doubt, a fair number of Big Twin owners and enthusiasts consider the V-Rod models in the Harley family to be the clan's red-headed stepchildren. But for the people who own a V-Rod — in this case, Night Rod Special owners — there's no other Harley like it. The VRSCDX sports its own, specific styling cues, and there's no denying the smiles per mile that its high-performance engine offers. Bottom line: if you want to buy American but you're an adrenaline junkie who just needs more stimulation than what a Big Twin or Sportster can offer, then maybe the Night Rod Special (or the Muscle) is the bike for you. **AIM**



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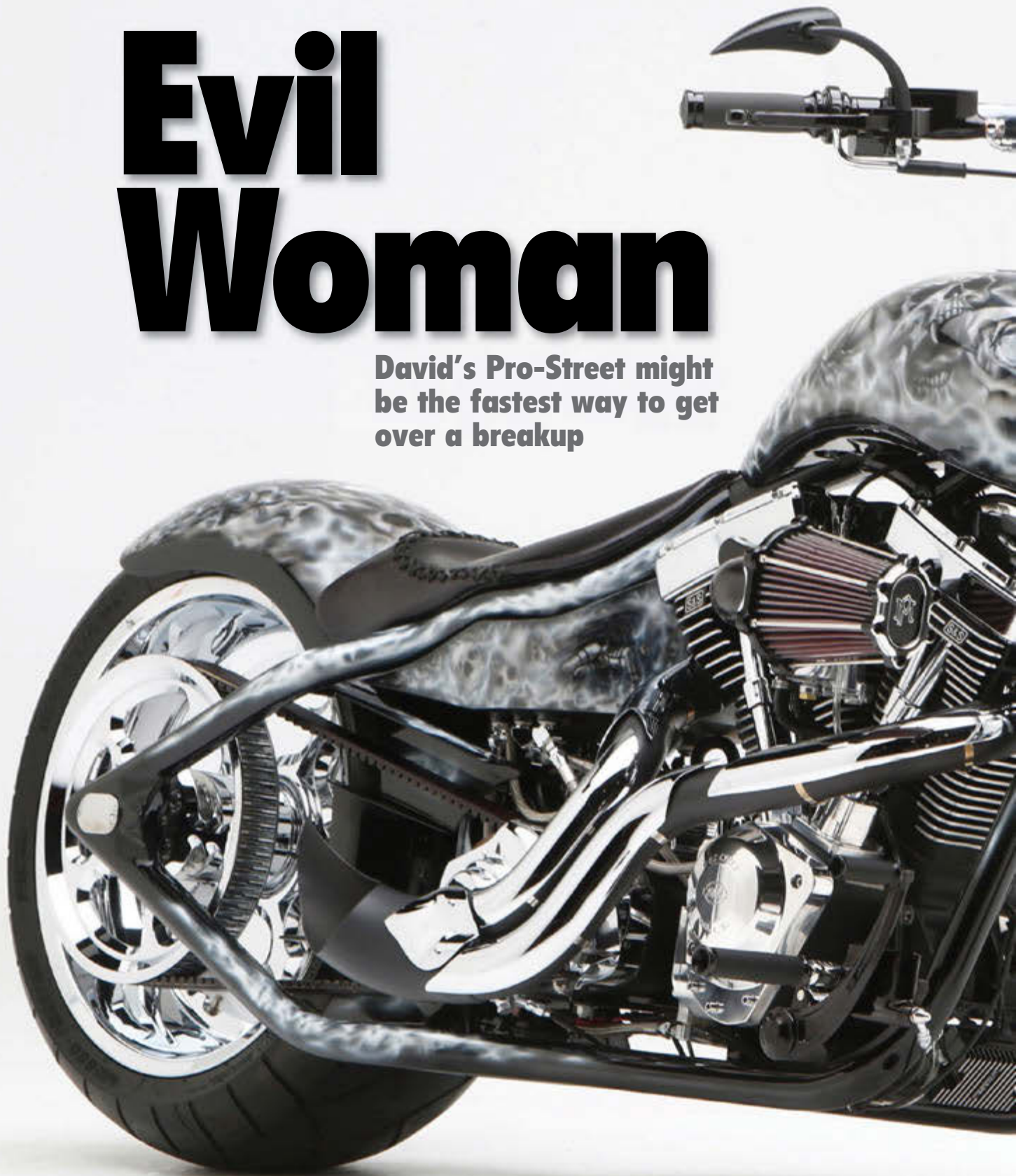
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Evil Woman

David's Pro-Street might be the fastest way to get over a breakup





text by

greg williams

photos by

dino petrocelli

TROUBLING TIMES: THAT'S WHAT DAVID LANSING was going through when he commissioned Dave Davies of Davies Custom Paint and Accessories (DCP) in Duaneburg, New York, to build him a Pro Street chopper. Those troubling times were all connected to the ending of a relationship — that's why there's an evil woman theme that's

apparent in the realistic airbrushed graphics.

David's a friend and regular customer at DCP. The shop performs regular maintenance on his three Harleys. A few years ago, though, David saw a custom softail-style motor-

cycle on the shop floor and decided he'd like something similar. The bike he saw was, according to Dave, basically a drag bike built for the street.

Getting the project started, Dave got in touch with Skeeter Todd and Sam Pileggi at Rolling Thunder Manufacturing in Quebec. "I called and asked if they could build a rigid frame similar to the one we had in the shop," Dave says. "I sent them some pictures, and they designed this frame."

It was paramount that the frame they ultimately got would prove to be rideable. "It's easy to design something



that will go fast in a straight line," Dave explains. "But the way David rides, this had to corner and be up to everyday riding."

What Dave got back from Rolling Thunder was a rigid frame with 42 degrees of rake at the neck and a 2" stretch in the tubes. With the chassis on the lift in the shop, David got to work



choosing the components that would turn the Rolling Thunder frame into a roller. He selected a Perse fork, something Dave says is a high-tech, high-quality front end complete with all hidden bolts and axle. For rolling stock, David chose Arlen Ness Jagged wheels, which feature prominent points in their design. The front wheel is 3.50" wide and the rear is 8.00" across — both measure 18" tall and are wrapped in Metzeler ME880 tires. DCP fabricator Bill Miller turned up spacers on a lathe to ensure the wheels were in line in the frame. The brakes are courtesy of Performance Machine, with four-piston calipers front and back.

Before the 96" S&S Cycle powerplant was bolted into place, DCP technician and certified S&S mechanic Darrell Hotaling took the heads off. He delivered them to nearby Boyd's Motorworks for porting and flowing by proprietor Jack Boyd. Jack also installed slightly larger S&S valves. Buttoned back up, the ever so slightly breathed-on mill went into the frame, where it was treated to a S&S Super E carburetor and Performance Machine air cleaner. The pointed exhaust is a Super-Trapp Road Legends Phantom pipe that matches the wheels.

To transfer power to the Ness rear wheel, David selected a right-side-drive Trix Shift six-speed



transmission, coupled to the engine through a Barnett 4" open primary drive and Scorpion clutch assembly. The whirling belt is protected by a Barnett Monster cover.

With the machine starting to take shape, DCP fabricator Bill set to work on a set of Russ Wernimont Designs fender blanks. To match the Ness wheels, it was decided the rear should have a point at its tail. Bill also integrated a belt guard into the right side of the fender and that took time to get just right — the angle of the pocket had to follow the belt and also allow for belt deflection.

The oil tank came with the Rolling Thunder frame and was left alone. The fuel tank, though, started life as a vessel from Fat Katz. Then Bill got to work stretching the back end to a point, and he also lowered the front and dropped the tank about 1-1/2" overall to bring it closer to the top of the motor. The fuel petcock is located toward the front of the tank on the left-hand side.

With all the metal in place, it was time for David to select handlebars. Nothing from a catalog would suit, so Dave and Bill bent and welded together a drag bar with integral risers.

They are 1-1/4" in diameter, and are capped off with Performance Machine controls, including a hydraulic clutch.

Dave made up a fiberglass seat pan to follow the lines of the frame, and David's friend covered it in black leather, closing the seam with a highly visible stitch. With the mock-up all together, the machine came apart for final finishes. Frame welds were ground smooth, and the joints were molded. Next, Dave sprayed everything, including the frame, fenders, tanks, and handlebars, in House of Kolor Black Pearl.

Dave's brother Mike applied the airbrush graphics. Skulls, women, and roses feature prominently, and it's a darker theme than Dave and Mike usually create. "I always kid and say I'm into life, not death!" Dave says. "But to each his own."

With the airbrushed artwork complete, Dave sprayed clear over the top. Only a few parts, such as some spacers and mounts, were sent for powdercoating. DCP has evolved from the family



sign painting and lettering business that was started by Davies Senior in 1959. Dave's dad was into cars, and Dave was into motorcycles. So, in the early 1980s, Dave expanded the company and moved into working on and building motorcycles. At DCP, most tasks are tackled in house, including fabrication, machine work, and painting.

DCP mechanic Darrell had no trouble putting the Pro-Street motorcycle back together when the paint was done, and the little bit of chrome came back from Brown's Plating

in Paducah, Kentucky. The bike was finished in late September 2014, just in time for the Catskill Mountain Thunder motorcycle festival held in East Durham, New York.

David has accumulated about 350 miles in the short time his ride has been finished. While Dave says the Pro-Street is a style of machine seen less often these days, he feels the dragbike look will always appeal to anyone who wants to go fast. And for owner David, perhaps help him escape his troubles. **AIM**

TECH SHEET •

Owner: David Lansing
Builder: Davies Custom Paint and Accessories (DCP), Duaneburg, NY
Year/model: 2014 Pro-Street custom
Time to build: Four years
Chromer: Brown's Plating, Paducah, KY
Polisher: Brown's Plating
Powdercoater: PowderTech, Duaneburg, NY
Painter: Dave Davies, DCP
Color: House of Kolor Black Pearl
Airbrushing: Mike Davies, DCP

POWERPLANT

Engine: 2012 S&S Cycle
Builder: Darrell Hotaling, DCP
Displacement: 96"
Horsepower: 95
Cases: S&S Cycle
Flywheels: S&S Cycle 4-5/8"
Cylinders: S&S Cycle 3-5/8"
Pistons: S&S Cycle 10:1
Heads: S&S Cycle, modified by Boyd's Motorworks, Gloversville, NY
Cam: S&S Cycle 585
Carb: S&S Cycle Super E
Air cleaner: Performance Machine
Exhaust: SuperTrapp Road Legends Phantom
Ignition: S&S Cycle
Charging system: Cycle Electric
Primary cover: Barnett Monster 4"
Transmission: Trik Shift six-speed
Case: Trik Shift

Gears: Trik Shift
Clutch: Barnett
Primary drive: 4" belt
Final drive: Arlen Ness pulley and Gates belt

CHASSIS

Frame: 2010 Rolling Thunder rigid
Rake: 42 degrees
Stretch: 2"
Front forks: Perse
Front wheel: Arlen Ness Jagged 3.50-18"
Rear wheel: Arlen Ness Jagged 8.00-18"
Front brake: Performance Machine four-piston caliper
Rear brake: Performance Machine four-piston caliper
Front tire: Metzeler 880 130/70-18"
Rear tire: Metzeler 880 260/40-18"
Front fender: Russ Wernimont Designs, modified by DCP
Rear fender: Russ Wernimont Designs, modified by DCP

ACCESSORIES

Headlight: Headwinds
Taillight: Arlen Ness, modified by DCP
Fuel tank: Fat Katz, modified by DCP
Handlebars: Bill Miller, DCP
Risers: Bill Miller, DCP
Seat: Dave Davies, DCP and David Lansing
Chain guard: DCP
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Mirrors: Arlen Ness
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A large, detailed close-up of the front left side of a motorcycle. It shows the handlebar, a round headlight, a black fender, and a large, treaded tire mounted on a multi-spoke wheel.

Tank Tough

Finished in yet another shade of gray

It was about 15 years ago when I first saw a custom motorcycle built by Russell Mitchell of Exile Cycles. My initial impression was that he had figured out a way to pump steroids into a Softail.



The bike looked chiseled and stout, its appearance more like that of a runaway steamroller or maybe a tank on two wheels. Mean and muscular, with nothing but the essentials; it's a style that became Russell's trademark. Today, many custom bike enthusiasts are familiar with Russell's bike building style. His bikes have appeared in countless magazine features and on reality bike building television shows like *Biker Build-Off* and *Build or Bust*. No matter what style of bike Russell builds — rigid chopper, traditionally styled bobber, or even a fat-tire trike — his signature style shines

through and is complemented by mostly black paint schemes and blacked-out components offset by machined or polished elements. Congruently over the past years, Russell has designed and created an extensive line of custom bike parts that enthusiasts use to drastically change the look of their own Harleys or to execute the Exile effect on ground-up builds. And while he's done it plenty of times before, Russell decided to reiterate the point that, with the right combination of bolt-on parts, anyone can build himself a really sweet ride out of a stock Harley, as this 2005 Night Train proves. It's hard to believe that there was basically no

fabrication involved in the creation of this custom. It rides on a stock Softail frame that was cleaned up only by eliminating unnecessary tabs and mounts to give it a more sanitary appearance. Perhaps the most extensive work to the frame was removing the rear fender horns to allow the Exile composite rear fender to be mounted over a 5.00-15" Exile Monster wheel wrapped in a 200mm Metzeler tire. Up front, the stock triple trees were replaced with a set of black-anodized Exile Sani-Trees. Machined from hefty 1-1/2" billet aluminum, the trees are beautifully shaped to fit the stock 41mm Softail fork legs perfectly. Russell





then installed another one of his Monster wheels, this one measuring 4.25-16", between the blacked-out H-D sliders. That wheel also wears a Metzeler tire, this one with 150mm width. He installed a composite fender with lines similar to the rear to further show off the beefy front wheel and tire. Typically, Russell uses his chopper-style gas tank — which is essentially an oversized peanut tank similar to what you see on most Sportsters — on his custom builds. However, for this Softail, he stuck with the stock Fat Bob tanks to further emphasize the bike's stout stature.

Keeping things clean and uncluttered in the handlebar area can often be a challenge with any custom-build, but as you see, Russell solved all of that with this Softail. He began with a set of Exile stainless steel, 1-1/4" diameter, 34" wide handlebars. The throttle side received the Exile internal throttle while the clutch side was outfitted with a Twist-Clutch assembly. To eliminate bulky switches, Russell used the Exile hidden switch bar, which consists of a small micro button housing with four buttons to operate the turn signals, horn, and high/low headlight.

To start the bike, he simply holds two buttons down simultaneously. It's a very trick system because it can be flush mounted into the left-side grip or

placed directly into the handlebar as on this Softail.

What about the front brake lever, you say? The front and rear brakes are linked using a single control, in this case, the foot pedal. To keep the system clean and sanitary, Russell enlisted a 3/4" master cylinder that he tucked neatly under the transmission side cover before joining the front and rear brake lines with a double banjo bolt. He designed it so the front brake is proportionately stronger than the rear for maximum braking performance. Many of Exile's parts have been on the market for a long time, and as you might expect, they're found on just about every bike that Russell makes. One component that gets a lot of attention is the sprocket brake kit. By converting the final drive to a heavy-duty RK chain and then combining the rear brake rotor and final drive sprocket into a single unit, this kit significantly cleans up the rear of any bike. Russell used this bolt-on kit, which has a brake mount to secure it directly to the swingarm's lower leg to hold the rear caliper in place. This Softail's forward controls are also from the Exile catalog. With no frilly designs or unnecessary points to clutter appearances, the



left billet foot control creates clean lines that follow the curve of the Exile 3" open primary's front pulley cover. On the opposite side, the brake pedal follows the angle of the frame tubes. Since the 88" engine on this used, low-mileage Softail was in perfectly good working order, Russell decided to leave well enough alone. He did, however, dress it up a bit, adding a little more breathing capacity with a S&S air cleaner kit that features the iconic teardrop cover with *Exile* machined into it. Russell installed a set of Exile Monster Drag Pipes at the south end that features 1-3/4" head pipes with 2-1/2" outer pipes that run tip to tip for Exile's signature beefed-up look.

The engine's left side is pretty tidy, with no coil or coil wires to be seen. Russell relocated the coil under the transmission using one of his coil relocation kits that also allows removal of the fake center post behind the engine. Usually Russell finishes his bikes with a flat or satin black

finish, and if there's any additional color work, it's something like traditional hot rod flames. However, for this build, Russell took a different direction, having painter Tony Markus cover the sheet metal in Military Gray. The sides of the Fat Bobs were then treated to the Exile logo laid down in black. The final results

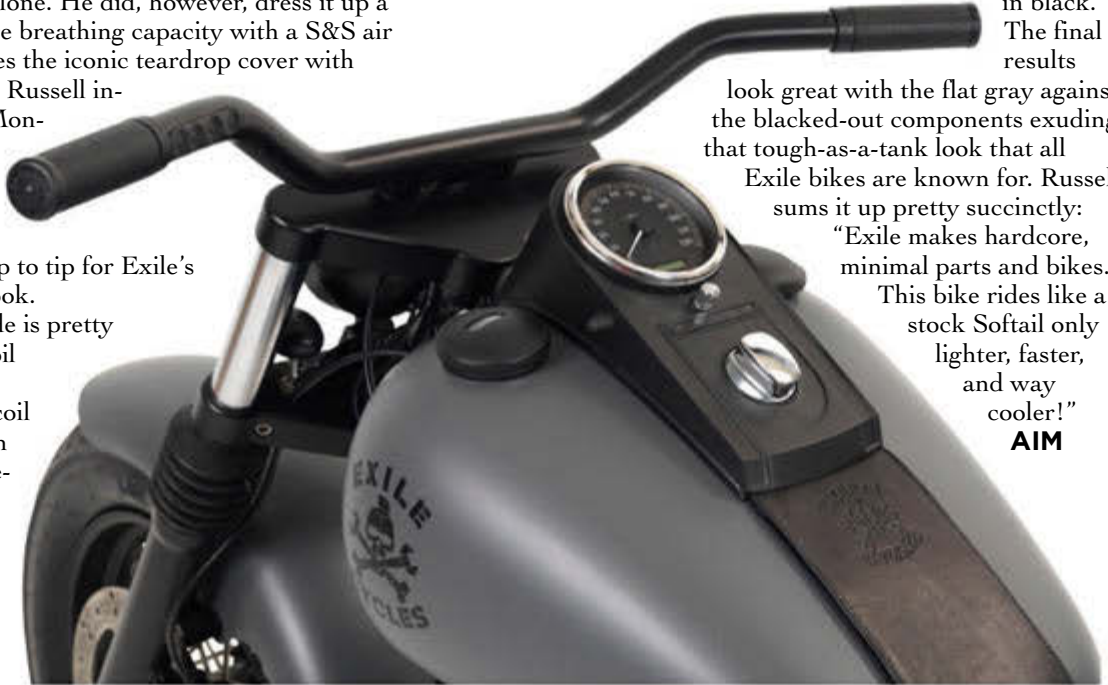
look great with the flat gray against the blacked-out components exuding that tough-as-a-tank look that all

Exile bikes are known for. Russell sums it up pretty succinctly:

"Exile makes hardcore, minimal parts and bikes.

This bike rides like a stock Softail only lighter, faster, and way cooler!"

AIM



TECH SHEET •

Owner: Russell Mitchell
Builder: Exile Cycles, Agoura Hills, CA
Year/model: 2005 Harley-Davidson Night Train
Powdercoater: Andrews Powder Coating, Chatsworth, CA
Painter: Tony Markus, T Markus Designs, North Hollywood, CA
Color: Military Gray

POWERPLANT

Engine: 2005 Harley-Davidson Twin Cam 88
Builder: Harley-Davidson
Displacement: 88"
Flywheels: Stock
Balancing: Stock
Connecting rods: Stock
Cylinders: Stock
Pistons: Stock
Heads: Stock
Cams: Stock
Carb: Stock EFI
Air cleaner: S&S Cycle/Exile Cycles
Exhaust: Exile Cycles Monster Drag Pipes
Wires: Exile Cycles coil relocation kit
Charging system: Stock
Primary cover: Exile Cycles pulley cover
Transmission: 2005 Stock five-speed
Case: Stock
Gears: Stock
Clutch: Rivera Primo
Primary drive: Exile Cycles 3" primary belt kit
Final drive: Chain

CHASSIS

Frame: 2005 Harley-Davidson Softail
Rake: Stock
Front forks: Exile Cycles Sani-Trees, Harley-Davidson sliders
Mods: 3" shorter tubes
Swingarm: Stock
Shocks: Stock, with lowering kit
Front wheel: Exile Cycles Monster 4.25-16"
Rear wheel: Exile Cycles Monster 6.00-15"
Front brake: Exile Cycles four-piston caliper and rotor
Rear brake: Exile Cycles sprocket brake kit
Front tire: Metzeler ME880 150/70-16"
Rear tire: Metzeler ME880 200/70-15"
Front fender: Exile Cycles composite front fender
Rear fender: Exile Cycles composite rear fender

ACCESSORIES

Headlight: Exile Cycles
Taillight: Lazer Star Bullet
Fuel tank: Stock
Oil tank: Stock
Handlebars: Exile Cycles Fat-bar
Wide Risers: Integral
Seat: Le Pera Solo, Exile Cycles mount
Pegs: Exile Cycles
Chain guard: Stock
Dash: Stock
License bracket: Exile Cycles
Hand controls: Exile Cycles Twist-Clutch assembly and internal throttle assembly
Foot controls: Exile Cycle

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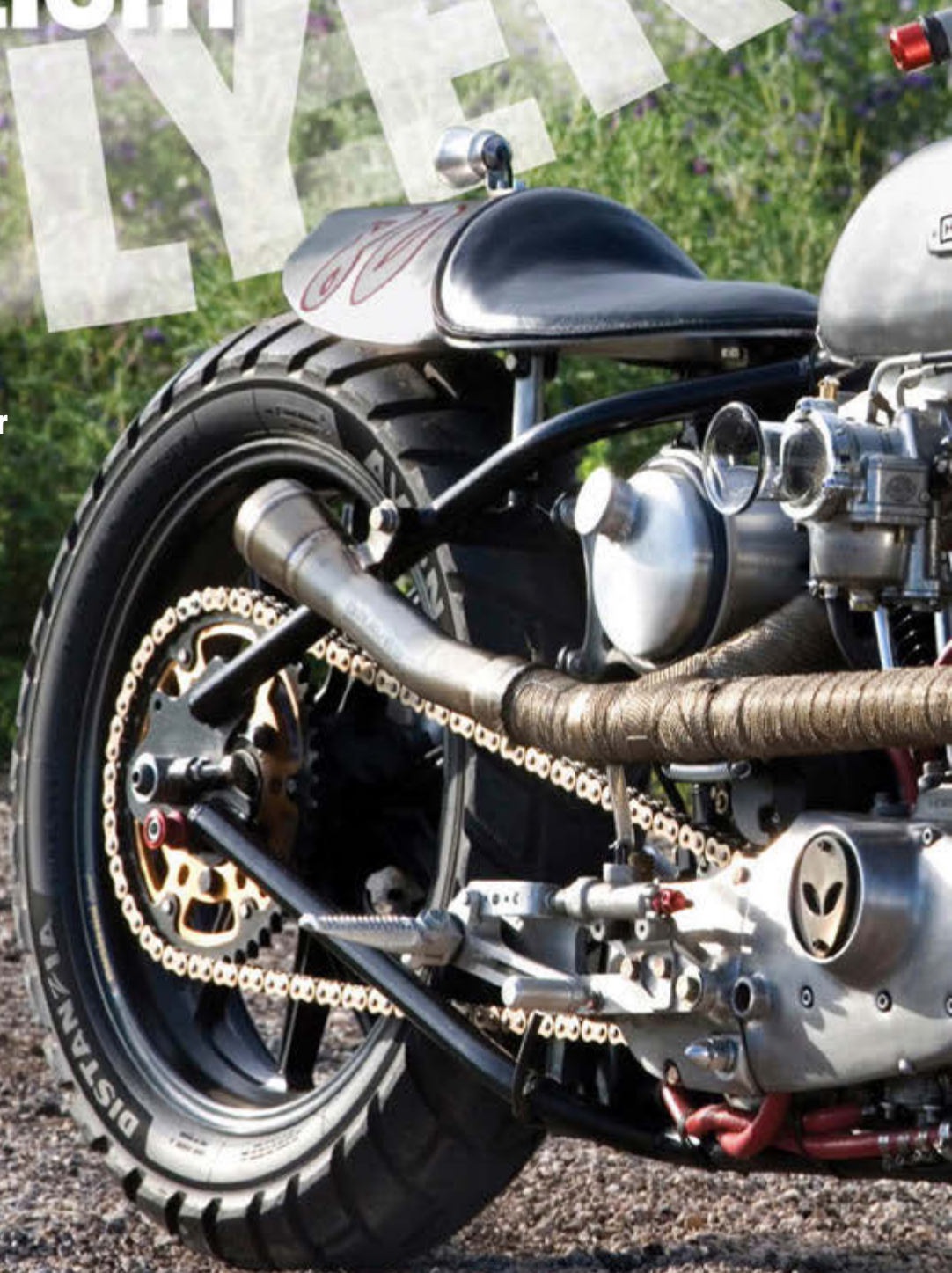
FLYWEIGHT

FLYER

A minimalist monster

text by
wayne scraba

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pam proctor





For some folks (me included),

simple usually translates as good. The less equipment tacked onto a custom bike, the less trouble it can present (most of the time, at least!). Obviously, too, less equipment means less weight. That's important because taking the minimalist approach also usually translates to a rather exhilarating performance. Honestly, the hot rod Sportster featured on these pages is an excellent example of my hypothesis. We'll get to the riding part of the equation later.

The Sportster's owner (and also the guy who built a bunch of it) is Craig Amon who also happens to be the consummate enthusiast. Alongside this little rigid, in his shop sits a pretty cool Panhead. And under construction is a Shovel project, so it's easy to understand where Craig's fire comes from. Now as the story goes, Craig co-oped the build on the basic chassis with his pals at Franklin Church Choppers in Dillsburg, Pennsylvania, where owner Tom Keefer helped with the basics (although, as it turns out, Amon is a pretty good fabricator, too). Essentially, the 1980 Sportster frame was chopped and converted to a rigid. Easy enough.

Up front, Craig decided to incorporate the entire front end from a Suzuki GSX-R. Not a bad idea: you get a honking big upside-down fork in the process, along with radial-mount Tokico brake calipers, a massive fork brace, and you can even add a steering stabilizer (which Craig did). Amon tells us the fabrication and machining needed to fit the fork wasn't all that difficult. But the wheels are another story.

Craig wanted a set of ultra-cool Marchesini hoops for the bike. Now in the sport and race bike world, these are definitely the bee's knees. These Italian bits are incredibly light and good-looking. Expensive, too. Craig scored a pair of fronts for the project along with a rear (from a GSX-R). Up front, it took a bit of fiddling with spacers and bearings to get it all to work. Out back, though, things weren't so easy. Mating the massive Marchesini was proving, well, tedious. Since it was a race wheel, the rear Marchesini didn't have a cush drive. As it turned out, converting to a cush drive was not going to happen. Eventually, Craig took a closer look at his spare front and a light bulb flashed inside his noggin; he devised a plan to adapt it to the rear of the rigid frame. Simultaneously, he adapted the stock two-piston GSX-R caliper for use on the rear. The petal rotor is a cool sportbike piece that Craig adapted to the hot rod Sportster. It wasn't a simple bolt-on procedure, though, leading to a ton of head scratching, measuring, remeasuring, and machining to make it work. By the way, those trick Marchesini wheels are wrapped in chunky Avon Distanzia dual-sport tires, a 120/70-HR-17" front and 130/70-HR-17" rear.

The gas tank was another of those simple ideas that turned into an extensive make-work project. Craig had this idea to adapt a dirt bike tank to the little rigid. The dilemma with most dirt bike tanks is that late-model ones are plastic. But a vintage 1974 Yamaha tank happens to be aluminum. The build team started the process, but soon discovered the bottom end of the tank needed to be rebuilt to fit. Let's just

say the tank rebuild was extensive. At the same time, Craig built a cardboard pattern of the seat pan that he used as a template for an aluminum seat. The trim work is all Amon. Building saddles is a little word-of-mouth sideline Craig has.

As far as spit-polish and paint, there's little of it. No



chrome, polishing, or extra powdercoating, either. The paint on the frame was something Franklin Church Choppers farmed out. Ditto with the paint on the wheels. And that's pretty much it. The 80 on the tail section represents the bike's model year.

Up front, Craig retained the stock GSX-R clip-ons. The roll-click (adjustable) levers are aftermarket sportbike jobs, as are the billet bar ends. The rest of the controls are straight off a Suzuki. Note, too, the little speedometer clamped to the clip-on bar: that's a magnetic pickup bicycle



mod. Amon reports it works perfectly, and, quite frankly, it's a much needed addition (for monitoring the speed and keeping tabs on the fuel range with the itsy-bitsy tank). The headlight is actually a PIAA off-road job, while the taillight is from Bare Knuckles Choppers. Downstairs, the foot controls are actually a set of sportbike rear sets that were modified to fit.

With much of the chassis sorted out, it was time for the powertrain. Honestly, Craig packaged the entire Ironhead and sent the works to Mike Magaro of Magaro's Racing Engines in Harrisburg, Pennsylvania. Magaro, who definitely knows his way around an Ironhead, treated the Sportster to some bore and stroking. He pretty much took it close to the max with a 4-13/16" stroke on the flywheels and a 0.060" over-bore (you can go to a 5" stroke with these motors, but as you can imagine, the dimensions start stacking up). This combination produces a honking 77". The big engine sports a set of Andrews X Grind cams that work in unison with a primarily OEM valvetrain. Upstairs, the heads have been reworked and fitted with XLR valves. Meanwhile the carb is a S&S Super E with a glass velocity stack, and the exhaust is another owner-fabbed piece. As you can see, the pipes are wrapped, but that wicked

little muffler can on the end is Graves' sportbike piece for a GSX-R. Oil is contained in a Mooneyes tank, and if you look closely, Craig plumbed all the oil lines with red hose. There's an in-line cooler mounted on the frame's left-rear down. Craig figures the cooler is pretty much a necessity for the big-stroke Ironhead, too. In operation, it runs cool. Backing the thumping 77" motor is a blueprinted gearbox. Aside from an undercut second gear, the internals are stock.

What's it like to ride? Craig gives it a thumbs-up. With an overall weight that's closer to a dirt bike than any Sportster, it's fast with a capital *F*. Getting it hauled down from warp speed isn't difficult, either, when you consider the huge-by-large brakes on both ends. And with lightweight wheels (and, consequently, minimal unsprung weight) coupled with an equally huge and stiff fork, the thing literally rails around corners. True, it's no long-distance machine — Craig's limit has been a 400-or-so-mile trip where he stopped often for fuel and a stretch — but it was never meant to be. This is a minimalist monster, pure and simple. It's the hot rodder's hot rod. The bottom line here is if you're looking for a bike that's an absolute blast to ride, copy this thing. Light is definitely right. **AIM**



TECH SHEET •

Owner: Craig Amon
Builders: Craig Amon and Franklin Church Choppers, Dillsburg, PA
Year/model: 1980 Harley-Davidson Sportster
Cost to build: \$15,000
Time to build: One year
Painter: Franklin Church Choppers
Color: Black and bare aluminum

POWERPLANT

Engine: 1980 Harley-Davidson Sportster
Builder: Mike Magaro, Magaro's Race Engines, Harrisburg, PA
Displacement: 77"
Cases: Stock
Flywheels: 4-13/16" stroker
Balancing: Mike Magaro
Connecting rods: Stock
Cylinders: 3.247", 0.060"-over
Pistons: S&S Cycle 9:1
Heads: Mike Magaro, reworked
Cam: Andrews Products X Grind, .450" lift
Valves: Harley-Davidson Sportster XLR
Rockers: Stock
Pushrods: Stock
Carb: S&S Cycle Super E
Air cleaner: Glass velocity stack
Exhaust: Craig Amon, fabbed and wrapped
Wires: Taylor Cable Products
Charging system: Stock
Transmission: 1980 Harley-Davidson Sportster
Gears: Stock
Mods: Undercut second gear

Clutch: Barnett
Primary drive: Stock chain
Final drive: Chain

CHASSIS

Frame: 1980 Harley-Davidson Sportster
Stretch: 2"-over
Front forks: Suzuki GSX-R 750
Mods: Stock Suzuki GSX-R
Swingarm: Led Sled Customs Ironhead hardtail kit
Front wheel: Marchesini 17"
Rear wheel: Marchesini 17"
Front brakes: Tokico two four-piston calipers
Rear brake: Tokico two-piston caliper
Front tire: Avon Distanzia 120/70-HR-17"
Rear tire: Avon Distanzia 130/70-HR-17"
Rear fender: Integrated tail section

ACCESSORIES

Headlight: PIAA off-road headlight
Taillight: Bare Knuckle Choppers & Parts
Fuel tank: 1974 Yamaha dirt bike
Oil tank: Mooneyes
Handlebars: Suzuki GSX-R clip-ons
Seat: Craig Amon
Pegs: Sportbike rear sets
Speedo: Bicycle with magnetic pickup
License bracket: Craig Amon
Hand controls: Suzuki GSX-R
Foot controls: Sportbike rear sets
Levers: Sportbike roll-click adjustable



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FRAME : GASKET
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AIM's 25th Anniversary Dennis Kirk Sweepstakes Winners

Here's to you!



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WHERE DID THE TIME GO? I WAS ONLY 4 years old when Buzz Kanter bought the *American Iron Magazine* title in 1991. And while I've learned how to walk and, debatably, talk since then, *AIM* has gone from being published in a spare bedroom in the Kanter household, to the number-one selling Harley mag in the world, with headquarters in Stamford, Connecticut, along Fairfield County's Gold Coast. And for more than 25 years now, *AIM* has been going strong. That said, all of those issues we've printed — all 323 of 'em — would not have been possible if it weren't for you, our readers.

To celebrate *AIM*'s longevity, we decided to give something back. So in issue #305, we announced that *American Iron Magazine* would launch a giant sweepstakes event, with a chance for readers to win various prizes, including a brand-spanking-new Indian. To enter, all you had to do was subscribe to *AIM* or send in a 3" x 5" card with your contact info as an entry. If you already were a subscriber, your name was automatically entered. Easy, huh? And, no, employees weren't eligible to win. Bummer!

From issues #308 to #320, we randomly pulled three lucky people's names from the hat as winners of the three monthly prizes: a complete set of **Fix My Hog** DVDs, a

\$100 gift card to our **GreaseRag.com** web site, or a \$1,000 **Dennis Kirk** gift card. Their names were announced each month in the Quoted & Noted section of the magazine. If you do the math, that's 39 prizes total. And the grand finale was yet to come.

Now we are about to announce 22 more names, including our first prize and grand prize winners.

First, here are the 10 lucky winners who will soon be sporting and stylin' **7eye** riding glasses by **Panoptix**. Each winner will get to choose glasses valued up to \$169, like 7eye's SharpView Day Night Eclipse and Day Night Contrast models, which feature photochromic lenses that automatically darken or lighten based on how much UV light hits the lens.

■ **Russell Ware
Sutten, WV**

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SOFTTAIL
TOURING
KICKER
BOBBER
AIR-COOLED**

**HARDTAIL
HOPPER**

**BOXER
PAN-HEAD
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■ **Leandro Fonseca**
East Newark, NJ

■ **Robert R. Harden**
Racine, OH

■ **Mark Gratton**
Poquoson, VA

■ **Clyde Babcock**
Newburgh, ME

■ **Tom Callaghan**
Stafford, VA

■ **Edward Shumway**
Hamden, CT

■ **Bryan Lord**
Shamokin, PA

■ **Al Petrauskas**
Downers Grove, IL

■ **Ray Sturn**
Bushton, KS

As we all know, motorcycle maintenance goes hand in hand with riding. And one of the more common maintenance procedures is changing oil. Below we've listed the three winners who won a **Spectro Oil** prize pack, which includes a case of Spectro lubricant and selected Spectro-branded apparel.

■ **David Zimpfer**
Mesa, AZ

■ **Ronald E. Huffman**
Ballentine, SC

■ **Charles Iaiennaro**
Southbury, CT

Some great safety advice is ride like you're invisible. But why should you actually be invisible when on the road? For our sweepstakes, David L. Debord will receive a **Badlands** Saddlebag E-Z bolt-on Flame Thrower lighting kit for his Harley. The Flame Thrower is available in red sequential, amber sequential, or solid red that can serve as running lights, brake lights, and

turn signals using Badland's Illuminator module.

■ **David L. Debord**
Morehead, KY

Also being divvied out to two of our winners are **Headwinds** headlight housings (one per winner). The Mariah Bullet goes to Kenneth Bartle, while Sid Means will receive the Bradley housing. The machined 6061-T6 billet aluminum Mariah 7" fits 1985 and later Harley FLH models, and comes in chrome, polished, gloss black-anodized, black chrome, or as machined. All styles come in the standard 3-5/8" length, but the chrome and polished versions are also available in a 5-1/2" length. The Bradley can be purchased in polished aluminum or chrome-plated, in 4-1/2", 4-3/4", or 7" sizes, and features a spun billet aluminum housing.

■ **Kenneth Bartle**
Powell, WY

■ **Sid Means**
Spotsylvania, VA

W.E. Vandrielen will choose from **Mustang's** vast catalog for his prize. Whether W.E. chooses the Tripper, DayTripper, Cobra, Regal Duke, Summit, Fastback, LowDown, or RunAround, one thing's for sure, his Harley will be pretty darn cozy.

■ **W.E. Vandrielen**
Pahrump, NV

Are you a rider who prefers old-school components? Are you a rider who feels that fuel injection is overrated? If so, then you'll envy Ken Metz, who is the recipient for a **Mikuni** 42-18 carb kit. The kit includes an air box adapter, tuning guide, and, of course, the 42mm carb that fits 1999-2015 Twin Cams and 1990-99 Big Twin Evos. For everybody else, the kit retails for \$399.

■ **Ken Metz**
Warren, OH

The quintessential "Harley sound" is one of the main reasons why we love riding Harleys. Exhaust systems help boost that rumble, and **Tailgunners** is giving away one of two different Tailgunners, plus a T-shirt, to two lucky winners. The Ma Deuce goes to James Zserai, and Mark Jeanblanc gets a pair of Gunships. The Gunships (\$795.95) feature 4"-diameter mufflers and 2-1/2"-diameter power baffles with fully rotating barrels that jut out beyond the saddlebags. The Ma Deuce 50s (\$469.95) use the Gunships' 4" canisters, power baffles, nameplates, and hardware, in addition to featuring CNC-machined black end caps with rust-proof stain steel buttonhead screws. Both models fit 1995-2015 Harley baggers.

■ **James Zserai**
Fredericksburg, PA

■ **Mark Jeanblanc**
West Jordan, UT

And now for our first-place winner: Robert G. Fauth is the lucky recipient, and he gets to select a standard-finish engine from **S&S Cycle's** line. He has a choice of S&S Cycle's KN, P, SH, V, or T-Series engines. That's a \$9,000 value!

■ **Robert G. Fauth**
Pittsburgh, PA

After acquiring the **Indian** marque in 2011, Polaris quickly went to work breathing new life into the old brand, and in only a few years time, it resurrected some classic Indian models. And now, one of *AIM's* readers will have his own new Indian motorcycle. Gary Moody, our grand prize winner, has the enviable privilege to celebrate Indian's heritage when he receives the keys to an all-new Indian.

■ **Gary Moody**
Fort Worth, TX

Congrats, and thanks to these winners, and to all our subscribers for supporting us all this time! Here's to another 25 years! **AIM**



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FAT BOB SUSPENSION UPGRADE

Part II: Progressive Suspension fork spring kit

Here's my Dyna Fat Bob tied down on Jim's lift with the rear wheel in the chock and the front end lifted on a jack just enough to get the front wheel off the lift. The entire front end is removed, the turn signals are hanging loose, and the calipers are supported with thick towels.

WITH A NEW SET OF PROGRESSIVE SUSPENSION 430 shocks installed on my 2009 Dyna Fat Bob, I recruited Jim Hamlin of Hamlin Cycles to finish off the bike with a set of Progressive Suspension's original progressive-rate fork springs (#11-1525/\$92.95). Riding the Dyna for 8,000 miles with stock springs was enough for me! Every bump sent vibrations all the way up to my hands and would sometimes jar my back. Progressive-rate springs have a rising rate resistance to compression, which means they provide a cushier ride at the beginning of their travel. However, they also have a firmer rate toward the end of their travel, which absorbs the really hard bumps.

I'm glad to have this work done at a shop by a pro. Jim replaces a lot of fork springs and has a custom setup that allows him to hang the forks upside down, allowing all the oil to drain out. Since you're replacing fork springs, use the opportunity to have the fork oil replaced as well. Use

Progressive Suspension's guidelines to figure out what weight oil your bike calls for and at what level the oil should be.

TOOLS NEEDED

- Hacksaw
- 4mm Allen
- 5mm Allen
- 3/32" Allen
- 1/4" Allen
- T-45 Torx
- 1/2" box wrench
- 10mm socket (12-point)
- 35mm socket
- 15/16" socket
- Fork level gauge ■



2 Using a 35mm socket, Jim applies pressure downward while turning the fork leg top cap to release it. Be careful here, as the force of the spring wants to shoot the fork leg top cap out.

Rider Sends a report of riding 160,000 miles wearing Bohn Armor Pants!

Product Comparo: Bohn Armor Pants vs Kevlar Jeans

ActionStations Boss Paul English talks about the differences in lower body protection options.

Kevlar reinforced jeans are popular with riders of all kinds of bikes.

Draggin Jeans were among the first on the market, and there are now many similar versions available.

Many riders are interested in how these compare to the Bohn Pants.



Q: Paul, please explain the differences between Kevlar riding Jeans and the Bohn Pants.

PE: In short kevlar has great abrasion resistance and is excellent for gravel rash when you're sliding down the road. With the Bohn System we're focusing more on Impact Protection - the vulnerable 'corners' you land on and damage - knees, hips, and elbows and shoulders with the shirts. An unprotected impact in these places can put you in the ER and off work. And hurts!

Q: But won't your armor grind through in a wreck?

PE: Actually in over 15 years, we've never seen our armor significantly damaged at all! This is because in a crash, we tend to bounce and slide, scrubbing the speed off.

Q: The Bohn System has to be worn under jeans as an extra layer, isn't that hot and a hassle?

PE: Positioning armor snugly against your body is the best way of providing comfortable and discrete protection so that it's in the right place if you have a fall. Yes, it's definitely an extra step compared to jeans - but on the other hand you can then wear your own jeans, or whatever pants you choose.

It gives you a lot more options.

Q: But isn't it hot?

PE: The only time you notice the Bohn Pants being hot is in the heat of the summer when you're a standstill, say sitting on your bike at a light. At that time of year everything's hot! Otherwise they breathe really well in all seasons; and we do have options of a mesh shell material and also a winter thermal solution.

Q: What about putting armor into kevlar jeans?

PE: Some companies do have this option, which on first impressions is a good idea. But what actually happens is the armor 'flops' around the outside of your leg as it's attached to the jeans - so you can imagine that it won't be in the right place if you actually do hit the ground.

Q: So do I need to upsize your jeans for the Bohn Pants?

PE: Surprisingly most people find that their existing regular-fit, or relaxed jeans fit perfectly over the Adventure Pants - that's because the armor mainly fits where your jeans are loose.

Q: Don't the Bohn Pants make your jeans look bulky?

PE: No one can see you have anything but your jeans on!

Q: And you make armored shirts too?

A: We think of the pants and shirts as 'A System' that protects you without having to wear full armored gear - specially in the heat.

Q: So what's the best choice?

PE: As a lifelong rider myself - I love to have choices in bikes, accessories and gear. Many riders are happy with kevlar jeans, and most are very well made. We're proud of the Bohn Adventure Pants and the amazing customer reports we get, but everyone has different priorities.

My suggestion is to give us a try -

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Could You Road Test Our Product Any Harder Than This Guy?



From: L. E. (Lou) Wissenbach

Subject: Years: Six. Miles: 160K.

"The subject line is my testimonial.

I bought the Bohn Armor Pants in Los Angeles while I was working a project there. They saw their first use in local tours along the Angeles Crest and the wonderfully twisted highways over the California coastal ranges. But it was after the project was completed and I was on my way home that I wore them through Death Valley at 115 degrees (F) one afternoon, then up over the pass to Yosemite in the icy early morning of the following day. That's when Bohn "Under" Armor pants were permanently integrated into my touring outfit. They just plain worked.



With Bohn as the base layer, faded blue jeans or light gray hiking pants as the sun-reflective norm, and chaps or riding pants as the wet or chilly day outer layer when needed, there is not a single place I couldn't go with confidence. And looking more like normal than like a space walk refugee at truck stops along the way was a bonus. That worked too for a low profile guy like me.

Since then I've worn that single pair of Bohn pants as "underarmor" for six years and 160K miles including Alaska (twice), across to the east coast, zigging the zags of Deal's gap (thrice as well), down to Key West one time, and through the canyons and deserts of the west and the Rockies numerous times.

After pulling the armor pads, the pants have seen washings in motel sinks and ice-melt rivers and were (usually) completely dry by morning. Fortunately, the only "crash" testimony I can offer was on a primitive road deep in the Cascade range by Mt. Adams.

That crash while wearing my fishing/ camping boots instead of my higher motorcycle touring boots left me with dents and cuts on my shins, but my knees, hips and thighs were protected from the roots and rocks by the Bohn system.

No problem. The armor did it's job.

But the bonus you don't advertise is that my bony knees don't take nearly the beating they once did when I stop to perform routine maintenance tasks like chain tightening and lubrication while kneeling on the unforgiving concrete of motel or Wal-Mart parking lots.

Oh, yeah. That benefit alone is worth the price of admission boys and girls. That's functionality I've come to expect from my touring gear. Bohn has met, no, exceeded, those expectations. Good work, guys and gals of Bohn. L E (Lou) Wissenbach, Kennewick, WA



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3 Jim removes the stock spacer and spring and sets them aside for cleaning later.



4 He hangs the fork legs upside down on the custom tool he made specifically for this purpose and leaves them for awhile to allow all the oil to drip out.



5 To determine the needed length of the spacer, which will set the front end's preload, Jim drops the Progressive spring and spacer into the fork tube and measures the distance from the top of the fork tube to the fork cap.



6 After marking where he needs to cut, Jim places the spacer in a vice and uses a hacksaw to trim our required 4mm from each spacer. Note: Jim puts a socket inside the spacer to keep the spacer from collapsing in the vice.



7 Jim then cleans up the just-cut edge of the spacers with a bench grinder. A file will work just as well.



8 Next Jim pours in fresh 15-weight fork oil. He uses almost a liter in each tube for this application.



9 He pumps the fork leg up and down a few times to bleed all the air out of the damper assembly.

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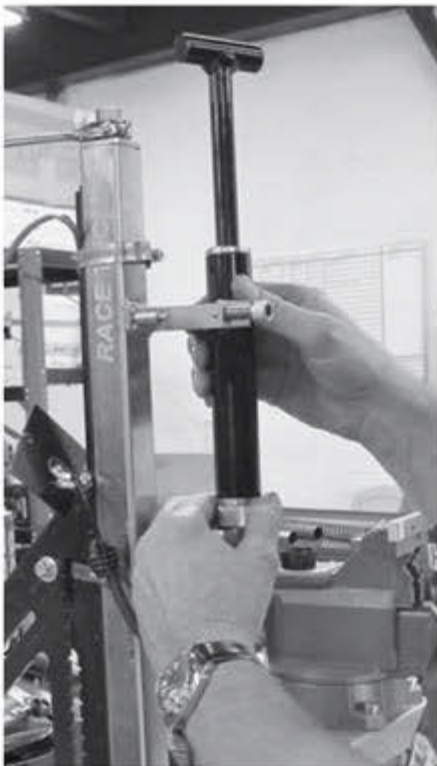
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10 Using a fork oil level gauge, Jim sets it to 140mm and sucks the extra oil out of the fork tube. He then inserts the Progressive spring, washer, and spacer into the stock fork tube.



11 With help from Jeff and using a 35mm socket, Jim pushes down hard on the top cap while Jeff twists the fork tube counterclockwise until the threads catch and the top cap is tightened.



12 Jim inserts the fork legs through the triple clamps and turn signal brackets and tightens the lower triple clamp bolts just enough to keep the fork legs from falling out using a T-45 Torx.



13 Jim inserts the axle through both fork legs and turns the legs until the axle turns easily, which ensures that the legs are in proper alignment.



14 After Jim removes the axle, he installs the wheel, making sure the stock spacers are in their original locations. He then torques the axle nut to 60-65 ft-lbs. using a 15/16" socket.



15 Jim uses a 5mm Allen to torque the fork axle slider cap bolts to 130-180 in-lbs. Then he torques the lower triple clamps to 20 ft-lbs.



16 Jim reinstalls the front fender using a 1/4" Allen and 1/2" box wrench.



17 Jim can now reinstall the brake calipers using the stock hardware, some anti-seize, and a 10mm 12-point socket. He torques the bolts to 28-38 ft-lbs.



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Slip-ons or headers sold separately

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dragspecialties.com



18 The axle nut covers go on with a 3/32" Allen.



19 Jim tightens the fork top nuts with a 35mm wrench. He then puts tape over the nut so he doesn't scratch the metal.



20 He torques the upper triple clamp pinch bolts to 12-16 ft.-lbs. using a T-45 socket.

PRELOAD IS THE DISTANCE that the spring compresses when the fork cap is installed.

Progressive's chart shows that our Dyna needs to have the provided preload spacer 30mm long.

To measure where to cut the spacer, Jim drops the Progressive spring and provided spacer into the fork tube. He then measures the distance from the top of the fork tube to the fork cap with the fork fully extended. This shows Jim that he needs to trim 4mm off each spacer for my bike. ■



21 Lastly, Jim aligns and tightens the turn signal clamps using a 4mm Allen. **AIM**

SOURCES

HAMLIN CYCLES
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SHEET METAL MAGIC II

The Perewitz crew shows how to change the mounts on a gas tank

Hot XL

Here's our Ironhead with a 3/4" thick section of foam about 14" long taped to the backbone. The foam is there so when Jon positions the gas tank onto the backbone, the tank will be stable.

IT'S AMAZING WHAT YOU CAN FIND LYING AROUND your garage, covered in dust, from a project that may or may not have happened 20 years ago. And while you might think that kind of stuff doesn't happen in the big-name builder shops, that's just what happened to us when we visited Dave Perewitz's famous Cycle Fab shop recently.

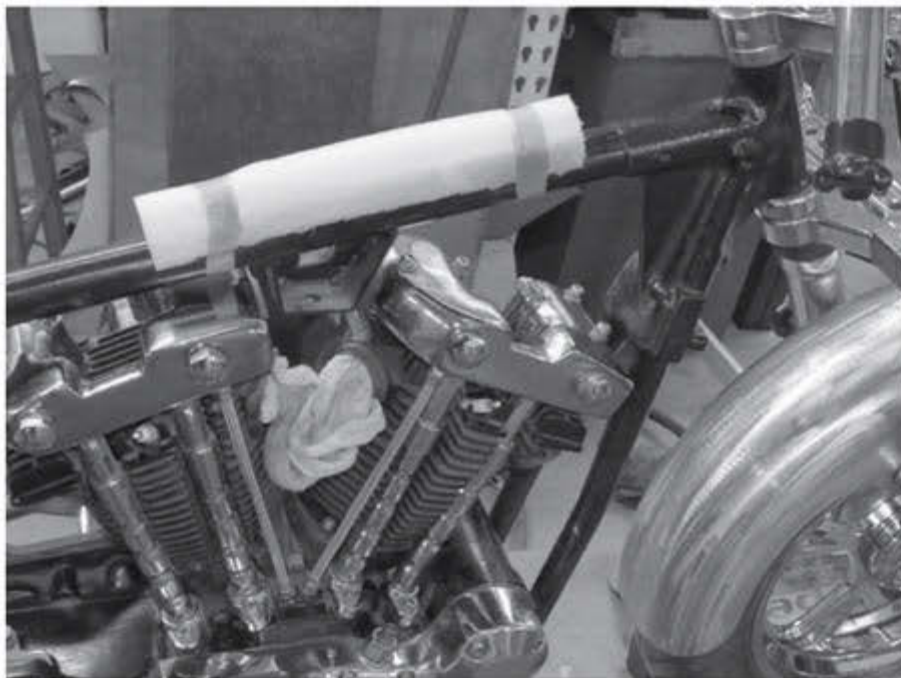
Our hot rod Ironhead project finally came together to the point of needing sheet metal, so we trucked the lightweight Harley up to Halifax, Massachusetts, to let the "King of Flames" work his magic. We started off last month with a Russ Wernimont Designs (RWD) front fender that Dave found in the shop. Even though RWD makes an exact fender for this application, that's what Dave had on hand so we went with it. It's a great example of what you can do with basic tools, a welder, and swap meet or garage-find parts.

Before we could finish describing the concept for the Pro-Street's gas tank to Dave, he had scrambled off to another section of the shop. Lo and behold, he returned with a dusty gas tank that looked exactly like what we had

envisioned for the Ironhead and plopped it onto the backbone. The Fat Bob tank had begun its life as a standard two-piece tank that Cycle Fab had at one point narrowed and

TOOLS NEEDED

- Tape
- Cardboard
- Safety glasses
- Steel ruler
- Vise
- Vise grip
- Center punch
- Belt sander
- Cutting wheel
- Sanding wheel
- Electric drill
- 1/8" drill bit
- 21/64" drill bit ■



2 The next step is to put a 1-1/2" x 4" section of 1/8" thick Masonite onto the two highest bolt heads of the front rocker box to set the lowest position the tank can sit on the backbone.

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3 A 1/2" x 1" section of 1/8" thick Masonite is then slipped under the tail of the tank to make it sit as Jon wants in relation to the engine.



4 Jon then positions the tank so it sits between the stock tank mounting holes in the frame. Note how tightly the tank fits to the engine while still following the curve of the engine.



5 Here's Jon's cardboard template of the front mounting tab on the bike with a bolt through the template and into the frame so it perfectly mimics what the real mount will be like.



6 Jon traces out the shape of the front mounts on a section of 1/8" steel plate using his cardboard templates. This 82" Ironhead will be putting out some vibration, so Jon wants the tank tabs to be plenty strong!



7 Jon then uses a center punch to mark where to drill the 5/16" hole for the front tank mounting bolt using the hole he has in the template as a guide.



8 Before he cuts out the front mount tabs, Jon drills the two holes starting with a 1/8" bit and then a 21/64". It's much easier to hold the rectangular plate in the vise than the curved mounting tabs.



9 After cutting the tabs out of the plate almost to his guidelines, Jon sands them on a belt sander to their finished shapes while holding the tab with a vise grip.



10 Jon then bolts both tabs to the frame and positions them against the front edge of the tank just as he wants them to be so he can tack-weld them.



11 Since there's no flat spot on the tank to put a level, Jon checks the size of the gap in the front of the tank to make sure the tank is level on the frame.



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12 Jon just tack-welds each tab to the tank in three spots to hold the tab in the correct position for when he removes the tank and fully welds the tabs. Jon then makes a set of rear mounting tabs just as he did for the front.



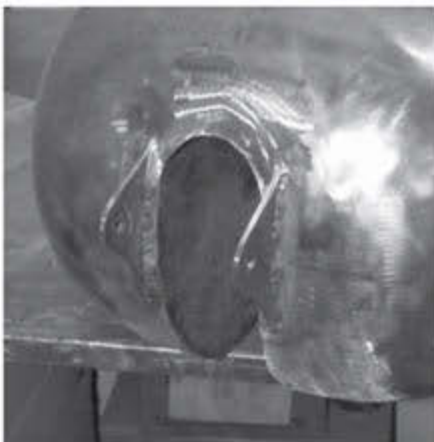
13 Once the rear tabs are made and tacked into place, Jon fully welds them onto the tank as well as the two front mounting tabs. He works from one end and goes right across the tab to the other end.



14 With the tank firmly mounted to the frame, Jon measures the height of the gap in the front of the tank so he can make a template to close up the gap so it matches the gap on the sides of the front of the tank.



15 He then does the same process to make the gap filler and tapes the template into position to make sure it's right.



16 After he welded it in place, Jon ground down the welds and smoothed out the corners using a 36-grit wheel. Here's how the finished gap filler looks.



17 Now that the tank is done, it's time to take care of proper fuel delivery. We're using a chrome Pingel petcock to feed our hungry 82-incher! A stock petcock will not keep up with the engine's wide-open throttle consumption.

married. And then it sat on the shelf for 20-some-odd years. Think about it, when was the last time Harley made a two-piece tank? On second thought, that's a little depressing, even for me. In its narrowed form, the dusty old tank fit the width of the Ironhead perfectly, and although it was never meant for a Sportster, the bottom curvature bowed beautifully and naturally over the rocker boxes. Dave, we'll take it!

This carbureted monster is going to need a lot of fuel to keep all 82 inches operating at full capacity, so we turned to Pingel Enterprise for its high-flow components. The first thing we need is Pingel's chrome 4000-series, single outlet reserve fuel valve (#4311-CH/\$118.15). Several options are available when ordering a Pingel fuel valve. Our Ironhead requires a 22mm H-D inlet size, which includes the adapter and a 5/16" hose barb nipple. The fuel valve is available in a round or hex design; we opted for the latter. Aluminum, black, and brass colors are also available.

Clean, debris-free fuel is so important in a performance engine where even the slightest problem can lead to catastrophic failure. Pingel once again comes to our rescue with its inline chrome fuel filter (#SS1C/\$45.75). We've used Pingel fuel filters quite a bit, and they consistently and reliably keep up with a performance engine's flow requirements. The single-inlet, single-outlet filter features 5/16" nipples on either side. The bronze element inside is easily removable for cleaning and, if cared for properly, never needs to be replaced.

Cycle Fab fabricator Jon Sniger is showing us the ropes on this gas tank project, and although he's a trained expert with the latest in equipment, this is definitely work that can be accomplished in one's garage or home shop. You need a little bit of artistic ability and some hand tools. You'll also see a heavy-duty welder being used, but a small Lincoln welder that operates on 20-30 volts will work fine since we're working with sheet metal and 1/8" steel plate. It might take longer, but there's no reason why you can't end up with the same result. The hope here is that if you're working on a project, you don't need to wait for the exact part to show up at a swap meet. Let's face it, when you're looking for something at a swap meet, it never seems to



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appear. Using this series of articles as a guide, you can shape any part you find into exactly what you need.

Next month, Jon fits up a new Paughco oil tank onto our Ironhead followed by a RWD rear fender. You'll get to see some of the similarities and differences when working with a new purpose-built part versus a found-on-the-shelf part from a couple decades ago. But for now, follow along as Jon at Perewitz Cycle Fab takes us through the modification and adaptation of an old gas tank onto our Pro-Street Ironhead.



18 A matching chrome Pingel fuel filter allows for maximum fuel flow while also looking good!



19 Here's how the finished gas tank looks on the bike! We'll cover the oil tank in the next installment of this series. **AIM**

SOURCES

PEREWITZ CYCLE FAB
508/697-3595
Perewitz.com

PINGEL ENTERPRISE
608/339-7999
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THERE'S NO DOUBT ABOUT IT. BELT DRIVE primaries are cool. They look cool, sound cool, and feel cool. But let's not forget the real reason behind rocking a belt drive primary: to more effectively transfer power on bikes with a high-performance engine.

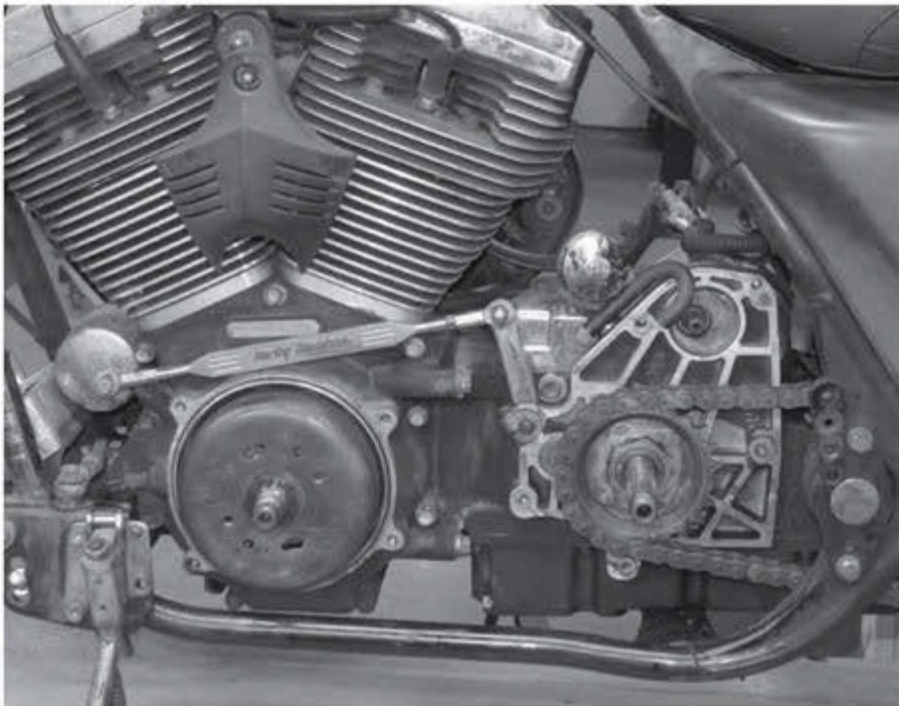
It's tough to find a big-block chopper or Pro-Street out there without an open belt primary, but high-torque engines aren't relegated to a specific type of bike. And these days, you're just as likely to find a big-inch engine in a bagger frame as anything else.

To suit the power transfer needs of high-performance Touring models, Rivera Primo created the Brute IV Extreme open belt drive, which is available for Softails, Dynas, FXRs, and, of course, Touring models. Specifically, we'll be installing the Brute IV Extreme 2" Touring in matte black (#2016-0125/\$2,693.47) on our 2002 Electra Glide project bike. Because baggers are meant to be ridden in comfort, the Rivera primary allows you to retain your stock floor-

boards without any fabrication. The 2" wide, 8mm Brute IV also has a built-in provision for a heel/toe shifter shaft, making the switch to a belt drive virtually seamless. And the 49-tooth front and 76-tooth rear pulleys won't ruin any of your long hauler's on-highway personality.

In terms of looks, the matte black engine motorplate and outer guard blend in beautifully with Harley's modern black powertrains and the shades-of-black look that's so popular today. The kit includes some chrome, however, namely the front alternator cover and steel clutch cover.

Besides the obvious improvements that are made with a belt drive primary upgrade, the kit from Rivera Primo in-



2 You'll need a special puller (JIMS #34902-84) to remove the stock inner primary cover bearing's inner race from the transmission shaft. Use the proper tool so you don't damage the tranny shaft or main gear seal.

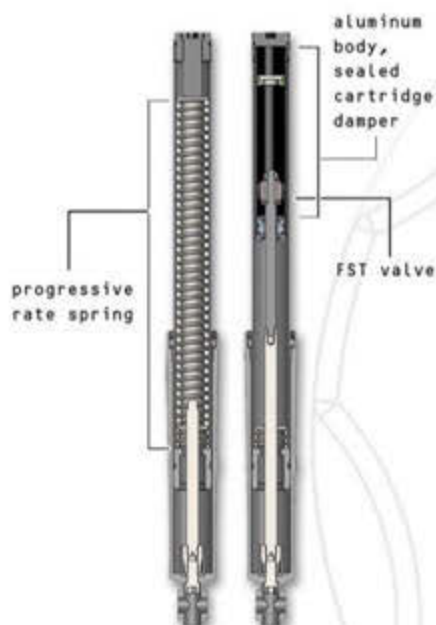
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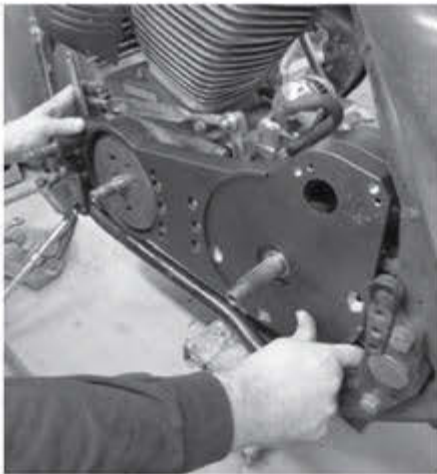
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3 The first step is to install the supplied Primo shifter shaft support into the Primo motorplate. Rick put a little anti-seize on the threads. Don't put any threadlocker on them.



4 After putting a little waterproof grease on the stock shifter shaft, Rick slips the shifter shaft into the Primo shaft support. Our shifter moved stiffly in the support. We needed to lightly file just the outer edge of the outer bushing.



5 After jacking up the rear wheel so it's off the lift and ensuring that the two aluminum blocks are tight against the inner face of the Primo motorplate, Rick positions the motorplate onto the engine and tranny.



6 After spinning the rear wheel and checking that the tranny sprocket/pulley and chain clear the Primo motorplate, Rick uses some blue Permatex threadlocker and a 1/4" Allen to torque the seven Primo bolts and three washers to 28-32 ft.-lbs.



7 After positioning the stock starter motor on the Primo motorplate, Rick uses some blue Permatex threadlocker and a 1/4" Allen to torque the two stock bolts to 28-32 ft.-lbs.



8 The starter jackshaft assembly goes in next. We used the Primo-supplied 10-32 bolt as well as the Primo-supplied locking tab, thrust washer, pinion gear, spring, shaft extension, and coupler.



9 The entire starter jackshaft goes onto the end of the stock starter and is then secured using a 7/16" socket. Rick torques the bolt to 6 ft.-lbs. (72 in.-lbs.). He holds the gear out with a flat punch and an adjustable wrench.



10 After making sure the locking tab on the lock washer is aligned with a flat on the head of the bolt, Rick uses Channellock pliers to fold the tab over against the bolt head.



11 Rick then positions the Primo-supplied chrome rotor cover onto the engine sprocket.

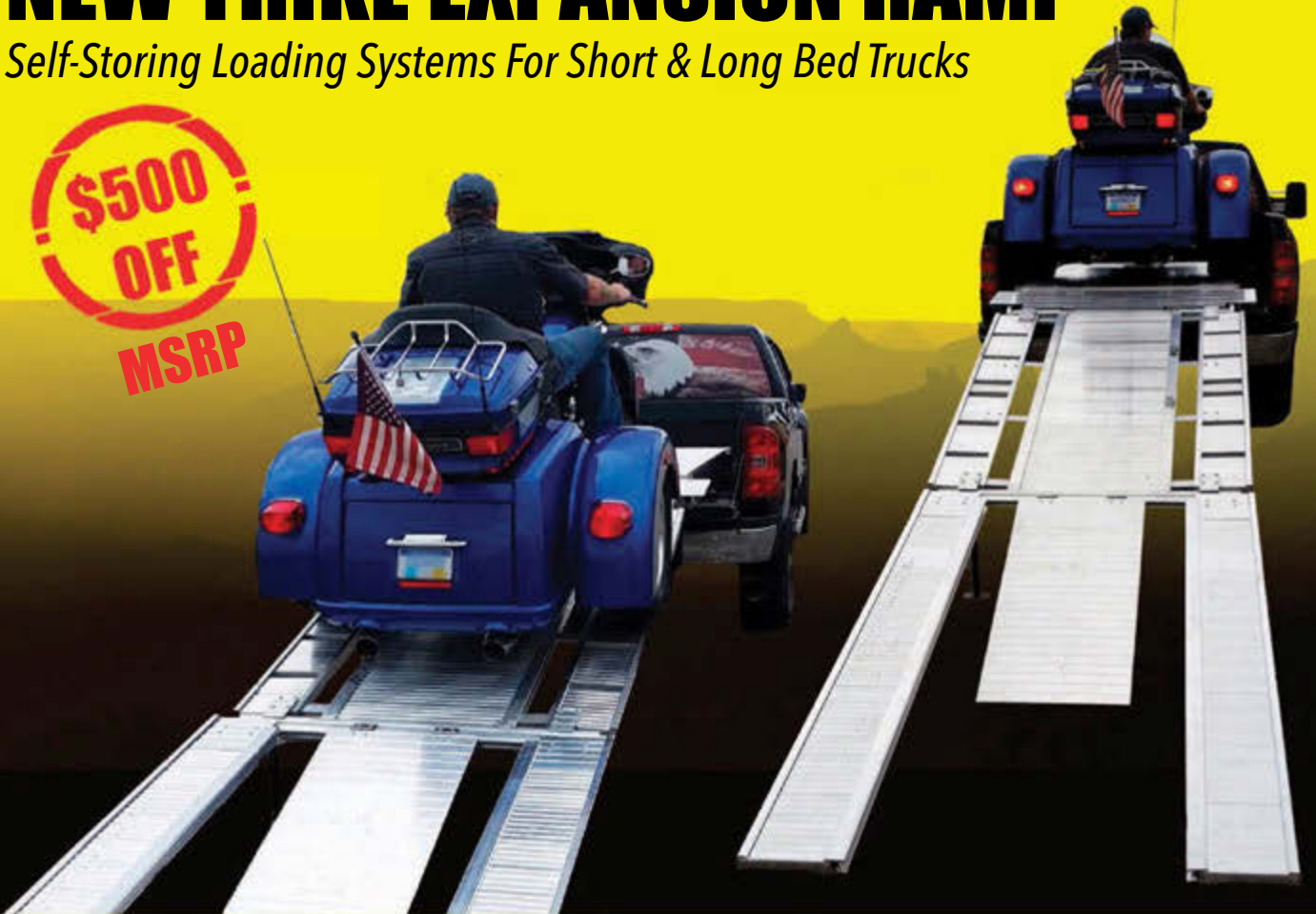


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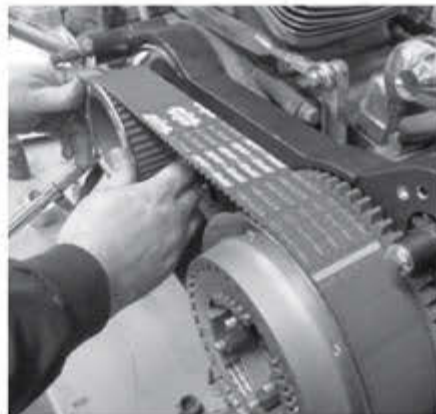
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12 With the Primo engine pulley, large washer, and nut on the engine sprocket shaft, Rick secures them using a 1-1/2" socket and impact gun. Rick then removes the clutch pack's spring assembly and pressure plate, but not the clutch plate pack.



15 After removing both pulleys, Rick wraps the belt around the clutch shell and engine pulley and slips both back onto their shafts. First start the clutch shell on its shaft and then the engine pulley. Finesse and patience are the keys here.



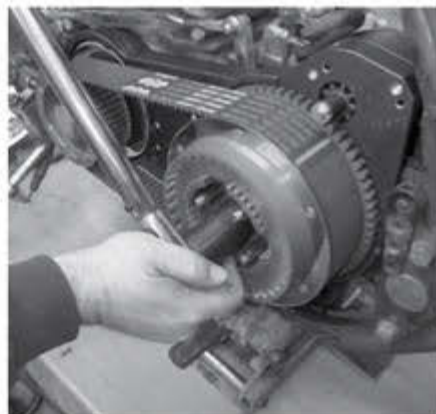
13 Rick slips the clutch assembly onto the transmission shaft and secures it using the Primo nut, a 1-1/8" socket, and an impact gun. Remember, this is a reverse-threaded nut!



16 After putting some red Permatex threadlocker on the nut's threads, Rick installs the nut and its flat washer using a 1-1/2" socket and a clutch hub holding tool (RP#1062-0001). He torques the nut to 150-165 ft.-lbs.



14 Rick uses an 18" long straightedge to check the pulley alignment. If the straightedge isn't touching the inner face of both pulley belt guides, he has to shim the pulley out the same amount as the gap. Ours is fine as is.



17 After putting some red Permatex threadlocker on the clutch nut's threads, Rick installs the nut using a 1-1/8" socket and a clutch hub holding tool. He torques this reverse-threaded nut to 80-90 ft.-lbs.

Product Comparo: Bohn Armor Pants vs Kevlar Jeans

ActionStations Boss Paul English talks about the differences in lower body protection options.

Kevlar reinforced jeans are popular with riders of all kinds of bikes.

Draggin Jeans were among the first on the market, and there are now many similar versions available.

Many riders are interested in how these compare to the Bohn Pants.

Q: Paul, please explain the differences between Kevlar riding Jeans and the Bohn Pants.

PE: In short kevlar has great abrasion resistance and is excellent for gravel rash when you're sliding down the road. With the Bohn System we're focusing more on Impact Protection - the vulnerable 'corners' you land on and damage - knees, hips, and elbows and shoulders with the shirts. An unprotected impact in these places can put you in the ER and off work. And hurts!

Q: But won't your armor grind through in a wreck?

PE: Actually in over 15 years, we've never seen our armor significantly damaged at all! This is because in a crash, we tend to bounce and slide, scrubbing the speed off.

Q: The Bohn System has to be worn under jeans as an extra layer, isn't that hot and a hassle?

PE: Positioning armor snugly against your body is the best way of providing comfortable and discrete protection so that it's in the right place if you have a fall. Yes, it's definitely an extra step compared to jeans - but on the other hand you can then wear your own jeans, or whatever pants you choose. It gives you a lot more options.

Q: But isn't it hot?

PE: The only time you notice the Bohn Pants being hot is in the heat of the summer when you're a standstill, say sitting on your bike at a light. At that time of year everything's hot! Otherwise they breathe really well in all seasons; and we do have options of a mesh shell material and also a winter thermal solution.

Q: What about putting armor into kevlar jeans?

PE: Some companies do have this option, which on first impressions is a good idea. But what actually happens is the armor 'flops' around the outside of your leg as it's attached to the jeans - so you can imagine that it won't be in the right place if you actually do hit the ground.

Q: So do I need to upsize your jeans for the Bohn Pants?

PE: Surprisingly most people find that their existing regular-fit, or relaxed jeans fit perfectly over the Adventure Pants - that's because the armor mainly fits where your jeans are loose.

Q: Don't the Bohn Pants make your jeans look bulky?

PE: No one can see you have anything but your jeans on!

Q: And you make armored shirts too?

PE: We think of the pants and shirts as 'A System' that protects you without having to wear full armored gear - specially in the heat.

Q: So what's the best choice?

PE: As a lifelong rider myself - I love to have choices in bikes, accessories and gear. Many riders are happy with kevlar jeans, and most are very well made.

We're proud of the Bohn Adventure Pants and the amazing customer reports we get, but everyone has different priorities.

My suggestion is to give us a try -

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OUTSIDE VIEW

There's nothing better than cruising with the guys on the weekend. Been doing the same for years and it never gets old - there's always something going on or a place to go. And this is how we ride, jeans and denim jacket - unless it's winter anyway.

But now we wear this Bohn gear underneath. Yes it's underneath! You can't see it, and we can't feel it.

I just feel happier when I have some protection these days, though I'm sure we're not going to have a spill.

Check it out - read their testimonials - that's what I did.

And they give you a 90 Day Trial too.

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They are very comfortable, I forget I even have them on, fit great, and it's great knowing I have the protection under my jeans. Thanks so much.

...your product has made a believer out of me and the select few who ..saw my kamikaze flight through the air. I can only imagine the numerous injuries that luckily avoided by wearing the armor.

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UNDERNEATH



I am happy to report my bohn armored pants helped save my butt in a crash this past weekend. Thanks, great product consider this a testimonial to their effectiveness

As a result of my wearing the pants I was at work bright and early Monday

...the road littered with gravel...I walked away without a scratch, the bike was not so lucky. I just wanted to say thank you and let you know that your product saved me a lot of pain

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18 Install the Primo pressure plate with the side with OUT stamped on it facing out and away from the bike.



19 If you took the spring retainer assembly apart, put it back together now. The side marked OUT on the spring retainer assembly is the side you put all the nuts, etc. onto.



20 Rick then positions the spring retainer assembly onto the side of the diaphragm spring that's bulging up.

cludes its Pro-Clutch kit, which greatly increases clutch friction area while delivering a smooth, easy feel. The kit also includes starter extension components, billet jackshaft support cover, and all the necessary hardware, making the Brute IV Extreme the one-stop middleman when it comes to feeding big horsepower and torque from your bagger's engine to its transmission.

To take on this project, we turned to



21 After putting a little anti-seize onto the four clutch hub studs, Rick can now position this entire assembly onto the pressure plate and start the nuts onto the studs with his fingers.

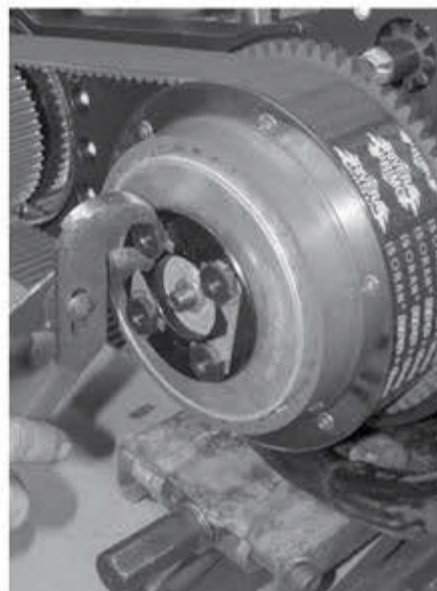


22 He then uses a 11/16" socket to tighten the four spring retainer assembly nuts until they bottom out.

"Big Rick" Hoffman, proprietor of Logic Motor Company in Salem, Ohio. Big Rick has been building top-of-the-line hot rods and custom bikes for decades, as well as making Editor Chris seem even shorter than he is. But for now, follow along with the captions as Rick takes us step by step through the install and clutch adjustment of Rivera Primo's Brute IV Extreme open belt drive kit on our Twin Cam bagger.



23 After he lays a steel straightedge across two edges of the pressure plate, Rick uses a flat feeler gauge to see if he has a 0.010"-0.020" gap between the straight-edge and outer face of the diaphragm spring. Ours is fine.



24 Rick can now bend over the locking tabs of each nut using Channellock pliers. You may have to use a small flat-bladed screwdriver to begin bending the tabs.



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REMEMBER, THE CLUTCH HUB
nut is a reverse-threaded nut!
That means you remove it by
turning it in the
direction you would
normally go to
tighten it.

TIPS & TRICKS

Before starting
this installation,
change the seal on the engine
shaft and install H-D seal
#12068, which goes in with its
steel back facing away from the
engine. You have to remove the
charging system's rotor and
stator to accomplish this.

If your rear drive belt/chain is
worn out (like ours is), this is the
perfect time to replace it.

When installing the Primo-
supplied shifter bung, make sure
you screw in the bung until it
fully contacts the motorplate or
it will wobble and snap off after
a lot of hard shifts.

When using an 18" long
straightedge to check the pulley
alignment, hold the straightedge
tight against the clutch shell's
chrome edge at two points using
your fingers. Then check to see
how the other end of the
straightedge is to the engine
pulley's chrome edge. If it's not
touching the inner face of the
engine pulley, shim the engine
pulley out the same amount as
the gap.

If you're not using a Rivera
Primo clutch hub holding tool
(RP#1062-0001) to torque the
clutch and engine nuts, you
should shift the transmission into
second gear and apply the rear
brake. Of course, that means
you'll have to torque the engine
nut after you put the clutch
assembly back together.

To install the Primo starter
jackshaft support, you must first
position the support onto its
alignment pins. Then tighten one
bolt a little and then the other to
walk it down onto the starter
jackshaft. If the cover is going on
tight, tap the bottom half of the
support with a plastic hammer
and then walk the bolts in a little.
Then tap the top half of the
support with a plastic hammer
and then walk the bolts in a little.
Repeat until the support is fully
against the motorplate. ■



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25 After he puts a little blue Permatex threadlocker onto the bolts, Rick installs the Rivera starter jackshaft support using the two supplied 5/16"-18 bolts and a 1/4" Allen. He torques the bolts to 28-32 ft.-lbs.



26 After putting some blue Permatex threadlocker onto the threads, Rick installs both standoffs onto the motor-plate using a 7/8" socket. He torques both standoffs to 40-42 ft.-lbs.



27 After putting some blue Permatex threadlocker onto the threads, Rick positions the Primo outer guard onto the standoffs and secures it using the supplied bolts and a 3/16" Allen. He torques the bolts to 28-30 ft.-lbs.

TOOLS NEEDED

- Waterproof grease
- Anti-seize
- Blue Permatex threadlocker
- Red Permatex threadlocker
- Flat punch
- Flat feeler gauge
- Steel straightedge
- Channellock pliers
- Flat-bladed screwdriver (small)
- Plastic hammer
- 3/16" Allen
- 1/4" Allen
- 11/16" curved box wrench
- Adjustable wrench
- 7/16" socket
- 3/4" socket
- 7/8" socket
- 1-1/8" socket
- 1-1/2" socket
- Torque wrench (in.-lbs.)
- Torque wrench (ft.-lbs.)
- Impact gun
- Clutch hub holding tool
- Inner primary race tool ■



28 Rick now adjusts the clutch as per the Primo instructions using a 3/16" Allen and an 11/16" curved box wrench.



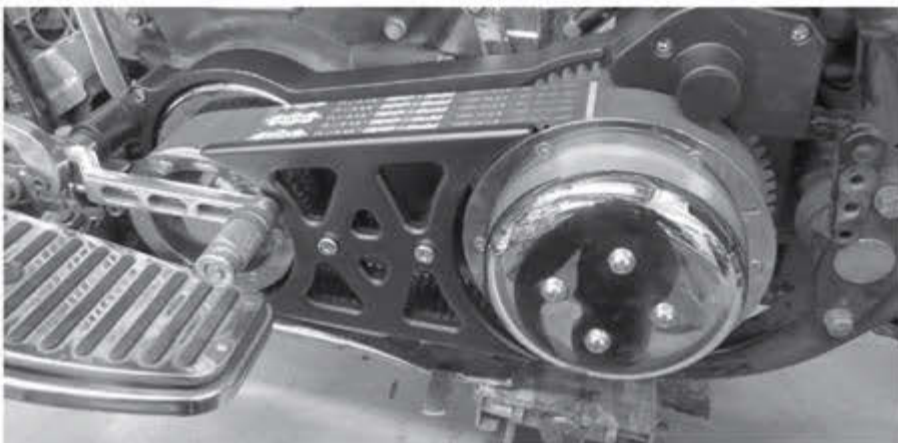
29 After putting some blue Permatex threadlocker onto the threads, Rick installs the Primo chrome clutch cover using a 3/16" Allen and the four Primo-supplied bolts and not-supplied lock washers. He torques the bolts to 100 in.-lbs.



30 He then reinstalls the shifter lever and floor-board using the stock hardware and some blue Permatex threadlocker.

SOURCES

RIVERA PRIMO
562/907-2600
RiveraEngineering.com



31 Here's how our finished installation looks! AIM



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SOFT TAILS



LOW-BUCK LED UPGRADE

CYRON's easy LED headlight retrofit kit

Hot XL

IF YOU'VE EVER RIDDEN A HARLEY WITH THE SPORTY little 5-3/4" headlight at night, you're familiar with the desolate feeling (think more nerve wracking than exciting) of not being able to make out what's ahead and to the sides of you. On top of that, the stock headlight isn't easily visible, during the day or at night, to other motorists. Having a brighter headlight greatly improves safety and your comfort factor when riding at night as well as during the day.

Until recently, most of the brighter LED headlight options required purchasing a whole new headlight unit for big bucks. CYRON changed the game with the launch of its LED Retrofit Kit for motorcycles (#ABH4K-A6K/\$69.95). The CYRON LED has a 6000K bright white beam, which not only puts out 2500 lumens, but it gives your bike a modern, high-end custom look.

The kit includes four adapters, which CYRON claims

will allow the LED light to fit 90 percent of all motorcycles on the road today. Sporting a lifespan of 20,000 hours, there's a good chance your headlight will outlast your current motorcycle and your next one!

Modern, high-tech looks and performance are great on the surface, but there are just as many improvements inside as well. LED technology is known for its ridiculously low-power draw. This means less work for your battery and charging system, leading to easier starts and greater dependability out on the road.

TOOLS NEEDED

- #1 Phillips screwdriver
- #2 Phillips screwdriver ■

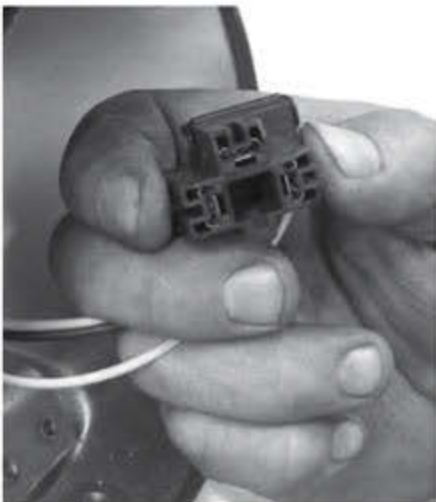
Here's the stock halogen headlight on our 2004 Sportster. Yup, looks just like the one on your bike.



2 Rob starts the swap out by removing the screw that holds the headlight bulb ring to the headlight housing using a #2 Phillips screwdriver.



3 He then pulls the headlight ring from the housing by lifting it up and off the two mounting tabs, which are located at the 10 and 2 o'clock positions.



4 He then disconnects the headlight from the bike's wiring harness by depressing the two tabs located on the sides of the headlight connector.



5 Once the headlight is free from the bike, Rob pulls the rubber protective boot from the back of the stock headlight lens.



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6 Rob can now depress the bulb holding wire and push it to the side, so he can remove the bulb.



7 After Rob removes the stock bulb from the headlight lens, he selects one of the four bulb adapters that are supplied with the CYRON kit, which matches the mounting tab arrangement on the stock bulb.



8 Rob then attaches the correct adapter to the new CYRON LED bulb (the mounting screw should contact the flat section on the bulb) using a #1 Phillips screwdriver. Just snug the screw, don't kill it.



9 He then installs the new CYRON bulb into the stock lens by aligning the tabs on the bulb with the slots. The bulb can only go in one way, so don't force it. Make sure the bulb holding wire is on top of the bulb adapter.

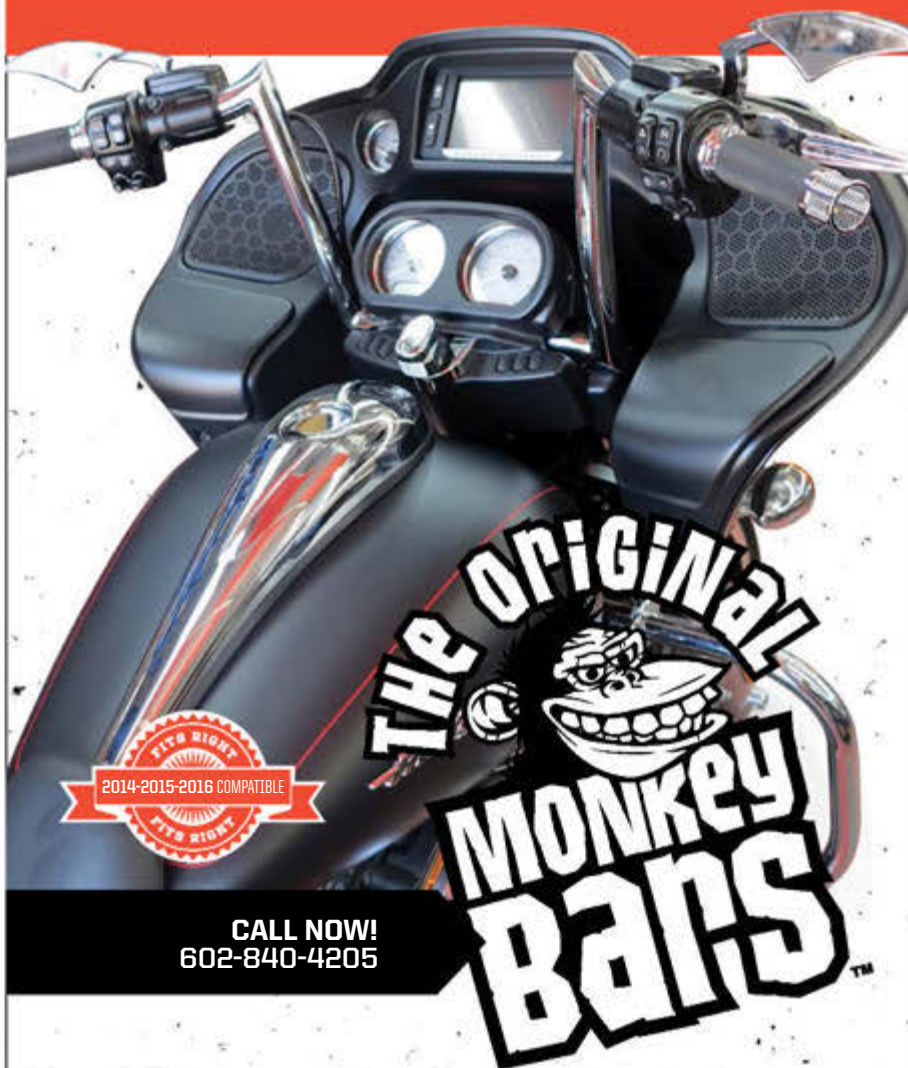


10 Rob can now depress the bulb holding wire and push it to the side, so it holds the bulb in place. Do not reinstall the stock rubber protective boot.



11 Rob now reattaches the bulb's connector into the bike's wiring harness connector until they snap together.

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12 He then positions the headlight lens in the stock headlight housing.



13 After Rob positions the stock headlight ring onto the metal housing's two mounting tabs, he secures the ring using the stock screw and a Phillips screwdriver.

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14 The beam in the top photo is from the stock headlight bulb. The new CYRON LED bulb beam is shown in the bottom photo. What a difference!

CYRON's bulb features an active heat management system that makes the already low-heat LED even cooler. One time on my own Sportster, when I first started riding, I rode to the deli to pick up a pastrami sandwich. I threw the plastic "thank you, come again!" bag over the speedo and let it hang in front of the headlight. By the time I got back with my sandwich, the bag had melted to the lens and it took me an hour to scrape it off. And my pastrami got cold. We didn't attempt the deli bag test with our donor Sportster, but a hand test concludes a massive decrease in heat.

The swap is similar to swapping out your stock H-4 bulb, making this install an easy DIY one. The built-in ballast, otherwise known as a LED driver, controls the power supply to the LED itself. This allows the CYRON kit to function flawlessly under wide operating voltage conditions. No matter what's going on with your battery or charging system, your LED headlight will continue to function normally. To further increase ease and accessibility, the high and low beams come from the same LED, which simplifies your whole setup.

The CYRON retrofit kit is a drop-in replacement for most 1992 and later Harley-Davidsons. The LED light, which is not DOT-approved, is much brighter than stock, therefore you might want to double-check your headlight angle to ensure you don't blind oncoming traffic.

We did this project with Rob at Rob's Dyno Service in Gardner, Massachusetts. Yes, the same Rob that you see time and again creating serious horsepower gains is skilled in every aspect of Harley-Davidson tech. Follow along as he takes us through this easy install to get a major lighting and safety improvement out of our 2004 Sportster for some seriously low cash. **AIM**

SOURCES

BIKER'S CHOICE
BikersChoice.com

CYRON
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STARTER NOISE & M-M EFI UPGRADES

Q: I added a 2003 SE Road King (FLHRSE12 103") to my garage last summer. It now has 17,000 miles on it. I have a similar problem to the one I read about in Issue #316 from Anonymous, who has a 2009 Softail Deluxe. His bike made a loud crunch or noise associated with the starting system when trying to start the engine. The answer given was to replace the sprocket compensator assembly with CVO parts including the rotor. Since my bike already has CVO parts (though it's a 2003 not 2009), I can't find anything on the web that indicates it would fit this 103" engine. How different is the 2003 103" from the 96" or 103" produced from 2010 forward, other than displacement? I can't find much info out there on the 103 CVOs even on various web CVO forums. I don't think this bike has had any internal engine work other than just a PC III fuel tuner.

So far, I haven't opened it up to see if it's the same or a different assembly than what I have on my 2000 Road King Classic (FLHRC1). I have all the factory manuals for all my bikes (including the supplement for 2003). Usually I can't get much info (part specs), only a part number that might be different from my 2000 or if it's different from a "stock" 2003 Touring model, depending on the part.

I have 50,000 miles on my 2000 and have never heard the same noise when starting it. I've put a 95" big-bore kit with flattop pistons, cc'd and flowed the heads, high-lift springs,

Is your five-speed Twin Cam making a loud crunch when the starting system is engaged? It may be that the compensator assembly (arrow) or its springs are worn or weak.



To submit a question to our H-D-certified mechanic, who has been working in dealerships for over 20 years, send in as much info about the problem and bike as possible to Hog Helpline, c/o American Iron Magazine, 1010 Summer Street, Stamford, CT 06905, or e-mail ChrisM@AmericanIronMag.com. Sorry, but due to volume, we cannot respond to requests for personal replies or to all letters.

Andrews 21N roller chain conversion cams, PCIII fuel tuner, etc. About two years ago, I also installed a Cycle Electric 80-series 50-amp charging system, and I think it included a new rotor. Dr. Dyno fine-tuned it in Sturgis, and it puts out 100 ft-lbs. of torque.

About 15 years ago, I had a fairly similar noise in my 1985 Low Glide (FXRS). It had a bad starter ring gear that slipped on the outer clutch drum, which was pressed on versus the later models that have it riveted on. On my Low Glide, when the engine got hot I had no issue since the clutch hub would expand and make the two parts fit together tighter. I'd replaced the starter, Bendix gear, starter gear before I gave up and took it to a shop. The head wrench there said he'd only seen one other bike with that same problem. On this 103, it only does it sporadically but usually when cold.

PAUL
Kettering, OH

A: The primary drive assembly changed with the 2007 Touring model six-speed transmission. The compensator assembly is completely different and not interchangeable with your 2003. Primary drive ratios were changed for the six-speed so the engine sprocket is much bigger on the new bikes. The problem with the six-speed assembly is that it can turn against its spring and bottom out when the starter is cranking the engine. Then it bounces back and pushes backwards on the starter drive, causing it to slip. That's the grinding noise you hear. The Motor Company has addressed this issue with improved compensator assemblies since the six-speed came out. On your bike, if the compensator assembly or springs are worn or weak the same thing can happen. Right now I'd say you need a new starter drive.

When you take the primary cover off to remove the starter, inspect the compensator. First make sure you disconnect the battery. Grab the clutch basket and try to turn it against the engine compression. You shouldn't be able to move the compensator sprocket very much. If it does move, disassemble the compensator and look for wear on all the mating sur-

faces. A little wear on each part will add up to a very loose assembly.

A bad battery or poor connections can also contribute to failure of the starter drive. If there is not enough current supplied to the solenoid, the drive will hammer and cause the same damage as described for the newer bikes. Don't rely on just a voltmeter reading of the battery. Perform a full load test to verify the condition of the battery when it's actually working. Inspect and clean the connections at both ends of your battery cables and starter motor when you put it back together.

Q: I bought my 2001 Road King Classic new. The motor is the stock 88" Twin Cam and has 32,000 miles on it. The only mods are Vance & Hines True Duals with V&H Classic slip-on mufflers. It also has the H-D Stage-1 ECM download and high-flow air filter. My ride has the original Magneti-Marelli fuel injection system and runs just fine, no issues. The original cam chain tensioners have not been replaced, and I know it's time for that. My issue is that I want to upgrade the

cams at the same time but several mechanics have told me to leave the cams stock and don't make any motor upgrades. They said my motor will develop problems with the Magneti-Marelli EFI. I just want a little more low- to midrange torque. Any suggestions would be appreciated.

JOHN GREEN

Waxhaw, NC

A: John, there's no reason I can think not to upgrade your engine. The only issues I see with the M-M bikes is setting up the hot and cold idle properly. And even that is just a matter of following the correct procedure of setting base voltages on the throttle plate stops. As long as your system is in good working order now you shouldn't have problems after the upgrade. That said, with 32,000 miles you should inspect the induction module for excessive wear in the throttle shaft. Also watch the Idle Speed Control (ISC). It should move smoothly through its range. With mileage and age, this unit can get sticky or worn. When that happens, the throttle plates don't get set where the ECM wants

them, and you have problems setting the hot and/or cold idle speed. This is the most common problem on these models. If all that is working well, go ahead and do your upgrade.

If you're looking for more pull, I would suggest going to the 95" cylinders. This alone will give you the extra torque you're looking for. I'm sure at 32,000 you'll want to freshen up the rings and cylinders anyway. Along the same lines, I'm pretty sure the cam journals will also be showing signs of wear. Screamin' Eagle has a nice Stage 2 95" kit (#29775-02C) that works really well and includes the cams, cylinders, pistons, and bearings to install the cams. You'll need the calibration for the ECM and cam chain tensioners to complete the job. I've just recently installed one of these kits for a customer in the same position as you. He needed tensioners and, since the engine was apart anyway, he went with the upgrade. Now he's got a great running, fresh engine to go another 40,000 miles. He was thrilled with the performance and has the peace of mind to keep riding. I think you'll feel the same. **AIM**

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ABUS GRANIT DETECTO X PLUS 8077

A formidable piece of security!

BACK IN THE DAY, WHEN I TRAVELED, I ALWAYS RENTED A ground floor motel room and parked my bike alongside the bed. Since that's not exactly a viable option today, my Plan B is to put a stupid amount of locks on my bike, so it's way too much of a hassle to steal. Especially if there's a less secure machine parked nearby! To that end, I'm always on the lookout for anything that will keep my bike exactly where I left it the night before. Which brings me to this impressive bit of hardware: the ABUS GRANIT Detecto X Plus-8077 (\$179.99).

The 8077's 13mm bolt, lock body, and supporting elements of the lock mechanism are made of special hardened steel for a hard-to-defeat lock and excellent corrosion resistance. The 8077 also has ABUS' X-Plus key cylinder, which gives you solid protection against picking, etc. Two keys are supplied, one equipped

with a LED light. Of course, the 8077 has an alarm that activates automatically once the lock is on the brake disc. Any movement of the bike sets off the 100 dB alarm for 15 seconds; then the lock resets again (two AAA batteries included). (The alarm also keeps you from forgetting to remove the 8077 before riding off!)

You can also use the 8077 with ABUS' massive adapter chain, but you'll have to go to the ABUS web site to read about that option. As I said, a stupid amount of locks! **AIM**

SOURCES

ABUS SECURITY TECH
ABUS.com



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ABUS DETECTO 7000 RS 3

An easy-to-carry, easy-to-use disc lock

WHEN I'M BLASTING AROUND TOWN, BE IT AT AN EVENT OR around my home stomping grounds, I never trust my bike to only the ignition lock, which can be overpowered way too easily, or the bike simply rolled into a truck. I always carry a small disc lock in my jacket pocket, or hanging from a pouch on the handlebars.



The latest addition to my security arsenal is the ABUS Detecto 7000 RS 3 (\$139), which has an impressive amount of features packed into its easy-to-carry frame. For starters, the 7000's 3 x 5mm square bolt, lock body, and the supporting elements of the lock mechanism are made of special hardened steel, which gives me a hard-to-defeat lock and excellent corrosion resistance. The actual lock mechanism is ABUS' Extra Classe cylinder that resists picking and uses an encoded reversible key (two provided). The 7000 also has a Snap and Go feature, which lets you install the 7000 using just one hand. Just slide it around the brake disc and

squeeze it closed, which automatically activates the 7000's 100 dB alarm function (two AAA batteries included). The alarm will sound if anyone tries to move your bike, but will not go off when in your pocket thanks to the special manual activation button that's integrated into the lock's Snap and Go mechanism.

Quick, easy, and a deterrent to anyone hoping to roll away with your machine while you're in a store, gas station bathroom, or anywhere else you're likely to go during the day. **AIM**

SOURCES

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BOHN BODY ARMOR

This armor gives me the freedom and versatility to change what I wear over it

I'LL ADMIT IT, WHEN I RIDE I WANT TO LOOK GOOD AND BE protected at the same time. While recently shopping for riding gear I almost bought one of those fancy high-priced riding suits. They are certainly well-made. I tried one on and it just wasn't me. Then I saw an ad for the Bohn Body Armor, and I was intrigued. I could have the best of both worlds. This armor gives me the freedom and versatility to change what I wear over it, and I don't have to wear the same thing all the time.

I wore it while riding my 1934 Harley-Davidson 3,387 miles on the 2014 Cannonball. It worked out perfect under my vintage clothing. The molded armor fit me really well. I love the way the zippered top fit, and I think it's worth mentioning to make sure you get the right size so the armor

doesn't slide around. It needs to fit somewhat snugly. The armored pants tend to make a girl's butt look a little bigger since there are pads on the hips as well. I couldn't wear them under skinny jeans, but buying a baggier pair of jeans to fit them under worked like a charm. I love the fact that I could even handwash the pants and shirt (without the armor) in the hotel sink, and it would dry overnight. It comes in different materials for every climate — because, as I know — riding the Cannonball gives them all to you! **AIM**



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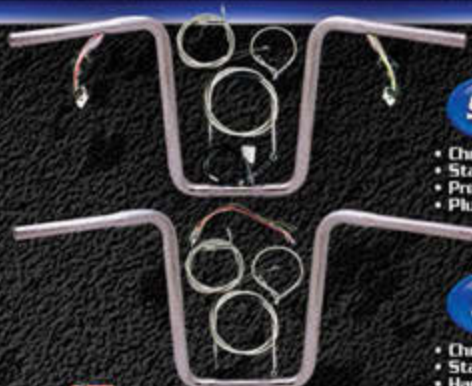
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RARE WEATHER Even though it was March, we were able to ride our Road King home from Apol's Harley-Davidson in Alexandria, Minnesota, on the day we bought it due to good weather, which is rare during that time of year. Alexandria is about a 90-minute ride from our home in Hankinson, North Dakota. We had a Shovelhead in the garage, too, so when it came to buying the Road King, we had an option of either a new pickup or a new bike, and, well, the rest is history!

RUSSELL BOEHNING
Hankinson, ND



Got a bike you think belongs here? If so, send a few high-resolution (300 dpi at 8" x 8" minimum) images to Letters@AmericanIronMag.com or *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905.

YOU'VE GOT THE PIECES...



Dynojet



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PATIENTLY WAITING In 2012, my son Joshua started his basic training on 9/11, the anniversary of the World Trade Center attack, and graduated boot camp on National Pearl Harbor Remembrance Day, December 7, 2012! We were able to see him before he had to leave on a two-year deployment to Okinawa, Japan. He hasn't been able to ride his 2005 Harley Sportster since entering the Marine Corps because he hasn't been able to take the military's mandated motorcycle safety course. However, he will hopefully get to take care of that and get back in the wind after he returns to the States next summer. In the meantime, the Sportster sits in the garage next to my 2007 Ultra, patiently waiting for him to come home and fire it up for a ride. I can't wait til the next time I get to head down the road with him next to me!

LARRY SRADER
Deming, NM



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COLOR COMBO Here's my 2001 Road King. It's pretty much stock with the exception of the Dragonfly batwing fairing, which I had painted to match the bike. I also installed a Sony head unit and a Pioneer amp, and the bike has been lowered at both ends. It's a blast to ride, and I really like the color combo.

ANDY KRISPINSKY
Streetsboro, OH



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STEVE COLLIER
Via Internet



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All claims and specifications are those of the manufacturers. Submissions are welcome and should include a color digital (300 dpi jpeg) image, detailed description, and suggested retail price. Send submissions to Widgets, *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905, or Widgets@AmericanIronMag.com.

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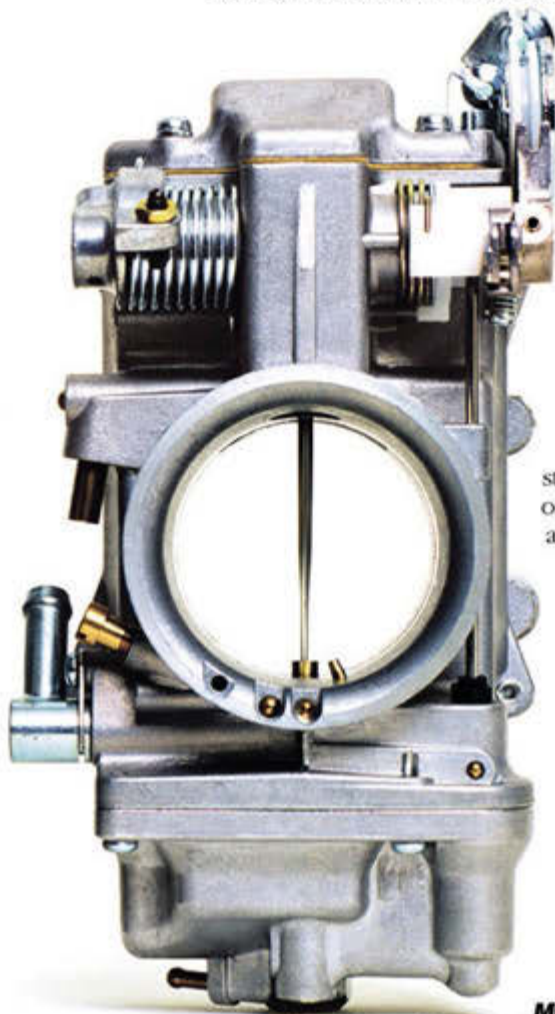




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top bracket and without built-in rake (0-degree rake). The 1" OD steering stem is designed for Timken-type bearings. All springers include a 3/4" axle kit. Info: Mid-USA, 800/632-0024, Mid-USA.com.



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HOW IT WORKS

continued from page 40

Gel Batteries

GEL, AGM, AND CONVENTIONAL BATTERIES are all variations of the lead-acid battery. Because they share some common characteristics, gel batteries are often mistaken for AGM batteries since both feature a nonspillable design. Gel cell batteries contain a silica-type gel in which the battery electrolyte (acid) is suspended. This thick, paste-like material allows electrons to flow between plates, but will not leak from the battery if the case is broken. Gel batteries will hold a charge longer than an AGM battery if temperatures are above 40 F. Charging voltage for gel batteries should be limited to between 13.5 - 13.8 volts, and they may require a special charging profile and/or battery charger to charge them. Excessive voltage during the charging process will cause premature battery failure. Motorcycle charging systems that exceed these voltages will also greatly shorten the life of a gel cell battery. Gel batteries tend to lose their charge more rapidly than AGM batteries in temperatures below 32 F, and they don't provide the same burst of electrical energy for engine starting, especially for cold riding weather. Gel batteries have a shorter life span and are often physically larger than an AGM battery for a similar application. Gel batteries typically cost more than an AGM equivalent for the same motorcycle.

Battery Safety

BEFORE WE GO TO THE OTHER TYPES OF batteries available, let's discuss battery safety. Any device that stores energy can be dangerous. There's a lot of explosive power in a gallon of gasoline, but when handled with some knowledge its use can be made relatively safe. Batteries are no different in that with the proper precautions they can be handled in a safe manner. Working with batteries poses two hazards: potentially explosive gases that are given off during discharging and charging, and sulfuric acid, which is highly corrosive. The following is a seven-point safety list that will help keep these two hazards under control:

There can be absolutely no smoking, sparks, or open flames around or near batteries. When a battery is discharged, or charged it can produce hydrogen gas that is highly flammable when combined

with oxygen; if these gases ignite the battery case can rupture or explode. On conventional batteries loosen filler caps when charging and ventilate the entire charging area. A build-up of hydrogen and oxygen levels within the battery, or in the area where it's being charged, can create a fire hazard.

If a battery feels hot to the touch during charging (over 140 F), stop charging it and allow it to cool off before resuming charging. Excessive heat damages the plates and a battery case that's too hot during charging can rupture.

On conventional batteries, which are the ones with filler caps, be sure to remove the red sealing cap from the vent elbow. Never put the red sealing cap back on the battery once it's removed. If the sealing cap is left on, gases trapped inside the battery can explode. For the same reason, make sure the vent tube isn't kinked or blocked. AGM batteries do not have a vent tube or filler caps.

Properly connect battery charger leads to the battery: positive to positive, negative to negative. Unplug the charger, or turn it off before connecting or disconnecting the leads. This will minimize the chance of creating sparks when connecting or removing the leads from the battery.

Always wear eye protection, protective gloves, and protective clothing when handling a battery. Make sure battery acid fill containers are clearly marked and work areas are well lit.

Battery acid is highly corrosive and should not come in contact with skin or eyes. If sulfuric acid is splashed in your eyes, take immediate action by flushing for several minutes with water; seek immediate medical attention. While the diluted sulfuric acid used as electrolyte can burn the skin, this type of injury is generally less serious. Use lots of water to rinse off skin that's exposed to acid. Ingesting or swallowing sulfuric acid can cause serious internal injuries or death. Drink large quantities of milk or water followed by milk of magnesia, vegetable oil, or raw, beaten eggs. Call the poison control center (800/222-1222) or doctor immediately.

Clean up acid spills immediately, using a water and baking soda solution (1 pound of baking soda in 1 gallon of water) to neutralize battery acid.

Lead-Acid Battery Ratings

BATTERY RATINGS PROVIDE A WAY TO compare different batteries and are set forth by the Society of Automotive Engineers (SAE). A battery's capacity is rated in two ways: cold cranking amps (CCA) and amp-hour (AH). The cold cranking amps rating is the battery's ability to produce current in low temperatures. A battery's CCA rating for a specific application is directly proportional to engine size, which determines the minimum level of amperage for starting. CCA must be met or exceeded by the battery's capacity. Batteries with less capacity are capable of starting a large displacement engine, but they may not do so reliably, especially in colder climates. CCA rates how well a battery can be expected to produce current in low temperatures. CCA represents the discharge load in amps that a new, fully charged battery at 0 F can continuously deliver for 30 seconds while maintaining 7.2 volts. In general, as engine size increases, so does the starter motor cranking current required to start the engine and thus CCA battery requirements. For example, a battery with a CCA rating of 270 will start a large displacement engine

under most conditions. A battery with a rating of 310 CCA and used in the same application would start the engine more reliably especially in cold weather.

The CCA rating has been in use for as long as automobiles have been in existence and is the measurement that all lead-acid starting batteries are rated by. CCA isn't a realistic way to rate motorcycle batteries in that 0 F isn't a temperature that many riders would venture out in. In addition, the 7.2 volts is too low to operate a 12-volt starter motor. Nevertheless, the CCA rating is what is used for lead-acid batteries to judge their cranking power, and though it's not a real-world way to measure a battery's starting power, it's helpful in making a purchasing decision for both cars and motorcycle applications. Batteries with higher versus lower CCA ratings will start larger displacement engines more reliably in cold weather.

A battery's ability to discharge a given amount of current over a specific length of time is the amp-hour or AH rating. The AH rating is the time it takes a fully charged battery, with an open-circuit voltage of 13.0, to discharge, which is when the voltage drops to 10.5 volts at 77

F (25 C). The amp-hour ratings are usually printed on the battery case in either 10- or 20-hour ratings. The following is an example of the 10-hour rating designation for a battery that has an 18 AH rating. Printed on the front of the battery case is 18 AH (10HR). This means the battery can be discharged at a rate of 1.8 amps for 10 hours ($18/10 = 1.8$) before it becomes discharged. The larger the battery plate area, the greater the ampere-hour rating. Temperature also has an effect on AH because low temperatures slow down the chemical reaction inside a battery. A battery will have a lower AH capacity in cold temperatures than in warm ones. AH is important on motorcycles that have lots of accessories, such as extra lights, a sound system, CB radio, and heated clothing. All these electrical loads add up, and if the bike's charging system can't provide power to run them, current from the battery will be used.

Conclusion

NEXT MONTH WE'LL COVER LITHIUM batteries, lead-acid and lithium battery ratings, battery chargers, how to activate a battery, and other important topics. **AIM**

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LEAVE IT TO DALE WALKSLER, WORLD-RENOWNED motorcycle entrepreneur, premier museum owner and curator, first-class vintage motorcycle restorer, highly respected motorcycle historian, and bon vivant TV star to come up with the most outrageous raffle idea that the collector world has ever seen!

That idea, in a nutshell, is to raffle off one of the most iconic, rare, and valuable motorcycles ever built, throw in \$100,000 cash on top of that (yes, that number has the correct amount of zeros after it), and partner with a charity to add icing to the cake. Hard to believe, right?

At this year's 20th Amelia Island Concours d' Elegance in Florida, which took place March 12-15, Dale unveiled his 2016 raffle bike, a 1936 Hemi-Head Crocker twin, for all to behold! Never in the history of motorcycling has such an outrageous idea ever been floated, much less executed to a successful conclusion. When I first heard about it, I called Dale right away to see if the rumor was true. Not only was it true, but the \$100,000 cash award on top of winning the bike left me dumbstruck, but Dale verified it all, and planning was in full swing.

As many in collector car and motorcycle circles know, Amelia Island Concours d' Elegance is one of the most prestigious collector car events in the country that celebrates the automobile in all its glory. It's held each March and high-end collectors vie for the right to exhibit their cars

and motorcycles at the event. A win at Amelia Island cements the car's prominence among its peers and forever rewards the vehicle with prestige. The Crocker, with its beautiful and meticulous cosmetic and mechanical restoration, will join a field of cars and other motorcycles that represent the best of the best.

Dale is partnering with Amelia Island Concours Charities, and raffle tickets are \$1,000 each, with only 5,000 tickets being sold. One of the coolest parts of the ticketing process is that each ticket is actually a portfolio booklet that opens to reveal artwork by David Uhl. You may be familiar with David's work; he's the first-ever licensed oil painter for The Motor Company and has created scores of masterpieces that capture Harley-Davidsons from a bygone era in emotional and timeless images. Each ticket is signed and numbered, and that number will be your raffle number. It's thought that, in time, these individually signed pieces of David's art may approach the face value of the raffle ticket price! Another great factor is that each ticket purchaser receives a lifetime membership to Wheels Through Time (a \$300 value!). The winner also gets the \$100,000 cash prize mentioned above.

The bike has a fascinating history that could only have come about with Dale Walksler in the lead role as both observer and participant. About two years ago, Dale was filming one of the episodes of his show *What's in the Barn* for

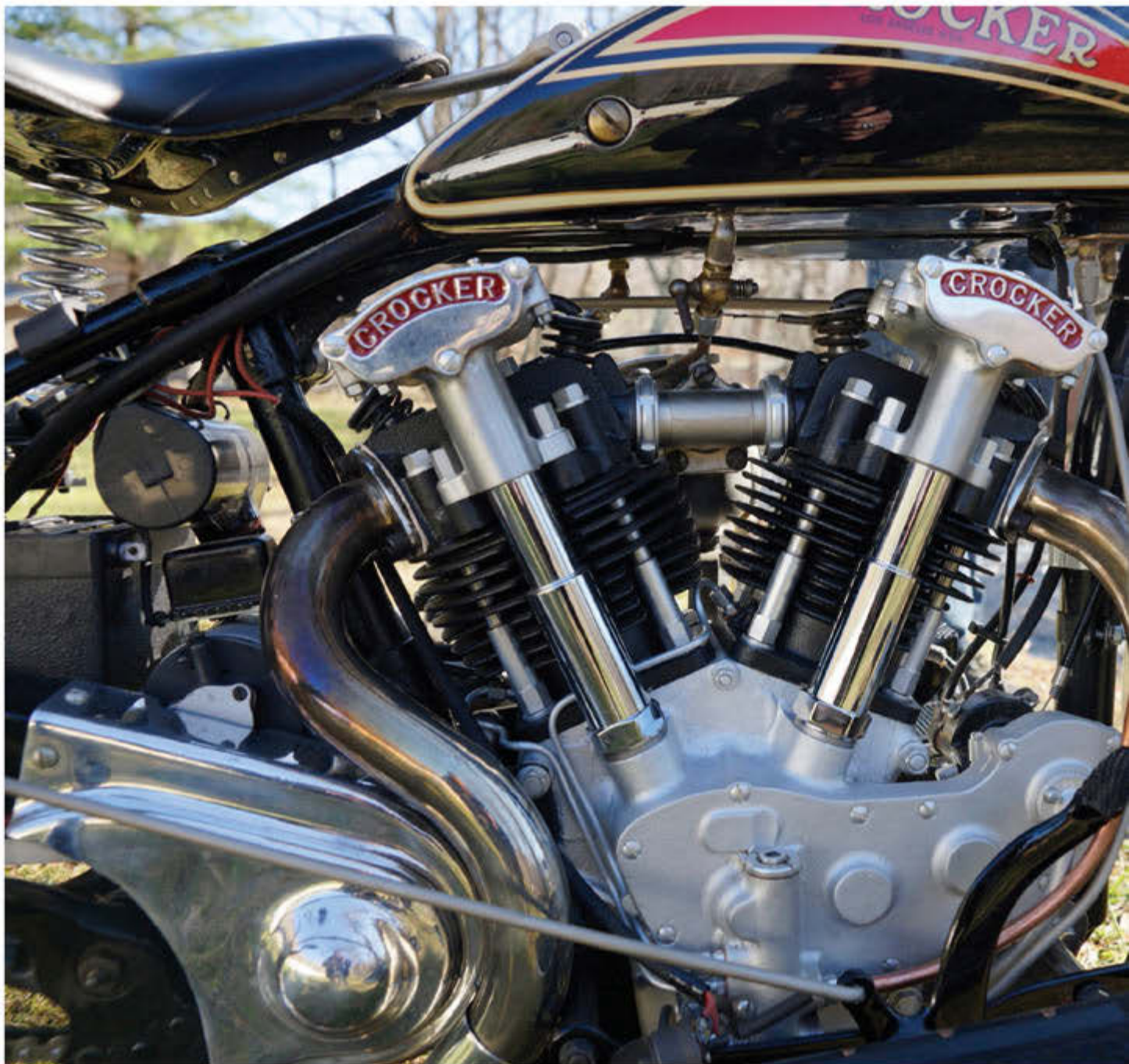


the *Velocity Channel* and came upon a Crocker hemi-head motor (#8) in a barn in Fresno, California. Dale was able to put together a deal to purchase that motor from the estate of the deceased collector, and he was off and running on another project. Fast-forward to the Davenport AMCA meet that same year and motorcycle enthusiast Jim Gallagher was there selling his Crocker twin-cylinder machine. Jim had bought his Crocker 40 years ago near his home in Chicago and held on to it all those decades, but the time had come to sell.

Dale recognized immediately that this Crocker had the wrong motor in it, but it was the exact chassis his motor originally came in! He bought the bike and reunited the correct chassis with the correct motor and karma was restored in the world of Crockerdom.

A full restoration was also in order, so Dale stripped the bike, sent the motor to master mechanic Mike Lange for a painstakingly comprehensive rebuild using all original parts. He had his favorite painter, John Dills, lay down the color. Mark Peters handled the hand-painted Crocker logo and pinstripping. The Saddle Shop in Florida restored the seat, and Dale carefully restored and assembled all the other parts. Coker Tires supplied the 4.50-18" Firestone tires, and Dale polished the nickel and buffed the chrome. The bike wears an M5 Linkert carburetor, shifts through a three-speed Crocker transmission whose case is an integral part of the frame structure. The engine is fired by a battery/distributor setup. Later Crockers used an Edison magneto, but Dale's is one of a handful that uses this setup.

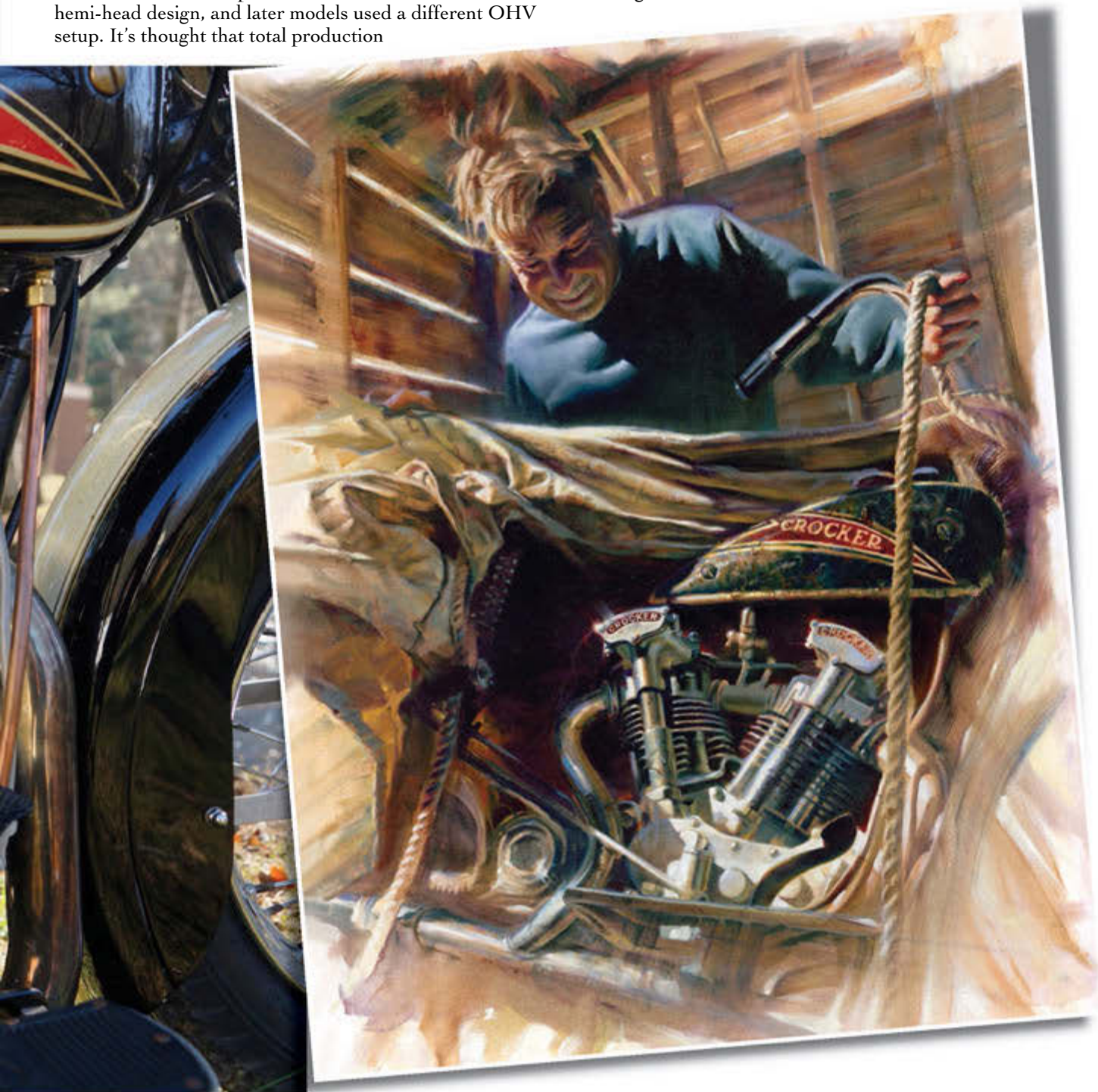
Abbreviated history: Al Crocker was a talented young



engineer, machinist, and motorcycle pioneer who cut his teeth at Thor and then Indian, where he owned a few different dealerships, the last of which was in Los Angeles. He loved racing and, along with P.A. Bigsby, developed an overhead valve conversion for the 101 Indian Scout, which made them fast and competitive on the racing circuit. In the early 1930s, he began in earnest, manufacturing his own single-cylinder overhead valve speedway racers, and, in 1936, came out with the now-famous Crocker Twin. It was the fastest motorcycle of its day, capable of 100-plus miles per hour. It's said he guaranteed that it would beat any Harley or Indian or your money back. Legend has it no one ever collected on that promise. The initial machines used a hemi-head design, and later models used a different OHV setup. It's thought that total production

was in the 75-80 range, making it an extremely rare and collectible machine today.

A Crocker sighting at any AMCA meet is a rare occurrence, a Crocker for sale at an auction or by private seller is even rarer. The ability to participate in a raffle for one is absolutely unheard of. Here's your once in a lifetime chance, so don't miss it. Go to the WTT museum web site at WheelsThroughTime.com and reserve your raffle ticket today. It's a little pricy, but considering what you get for the investment — a signed limited-edition David Uhl print, lifetime membership at WTT, plus the opportunity to win \$100,000 and a Crocker motorcycle — you won't see the likes of this ever again. **AIM**



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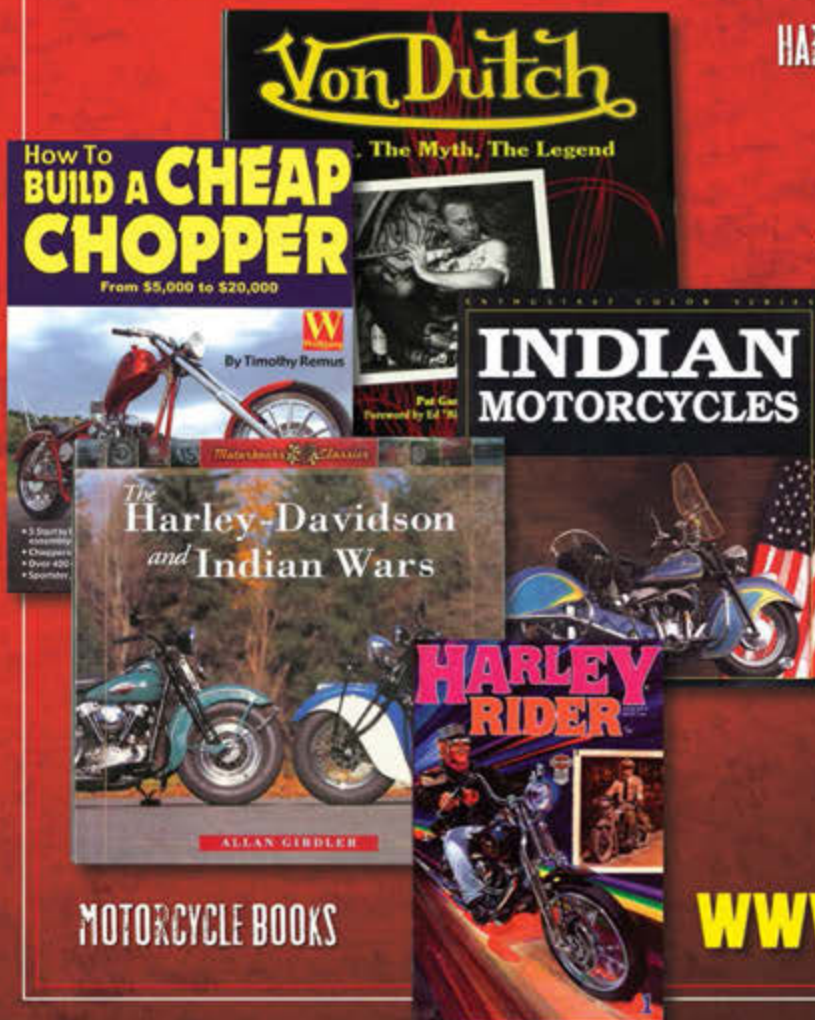
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Belinda Martorelli sent in this photo of her dad's 1942 Knuck-lehead. She told us "The bike is how Mom and Dad got around on their dates. He wore an old-style leather and fur aviator's head gear and was his own mechanic. You had to be in those days!" Belinda thinks the photo was taken somewhere in New Jersey, but doesn't know the date. She also told us that when he was drafted to serve in Korea in 1953, he decided to sell the bike instead of letting it sit for the years he was away.

BELINDA J. MARTORELLI
Albuquerque, NM



Tim Ruddock sent us this 1922 photo of his grandfather, George Herbert West, which was taken somewhere in Canada. Tim tells us that George was a WWI veteran and that he worked in the Detroit auto industry after the war. He was a welder and mechanic. Charlie, George's cousin, is sitting on the back. We think the bike is an early 1900s Cleveland.

TIM RUDDOCK
Bass Lake, CA



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